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Nos. Five and Six

THE NATIONAL GEOGRAPHIC MAGAZINE

NOVEMBER—DECEMBER, 1917

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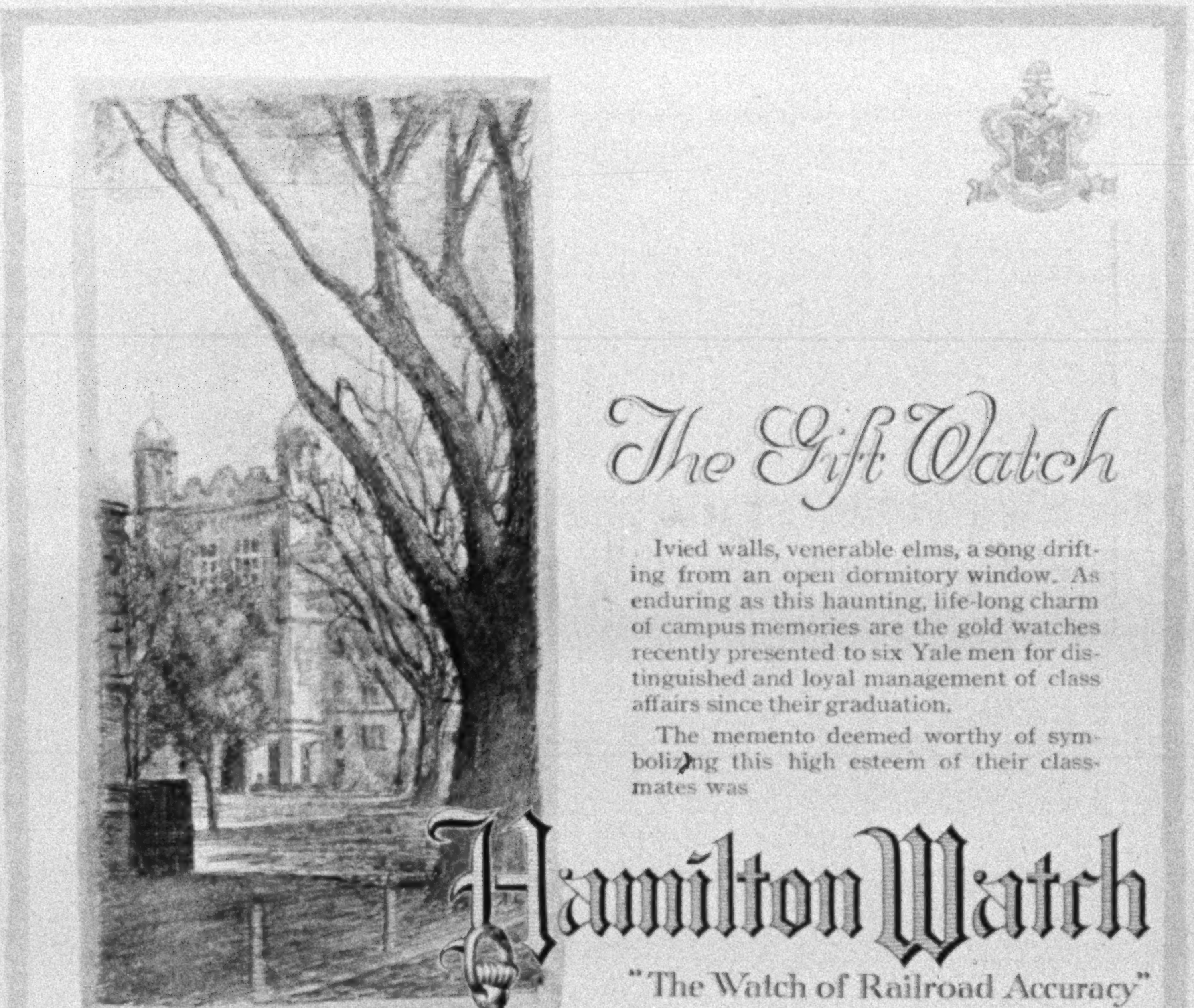

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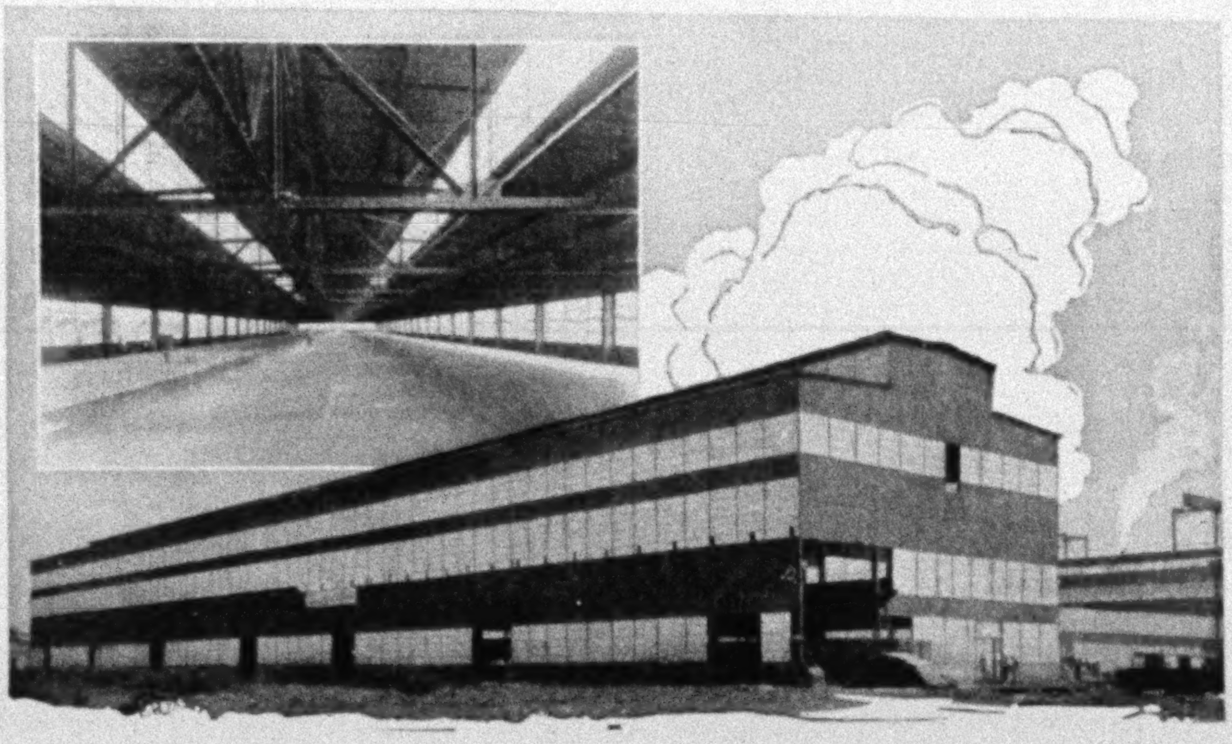

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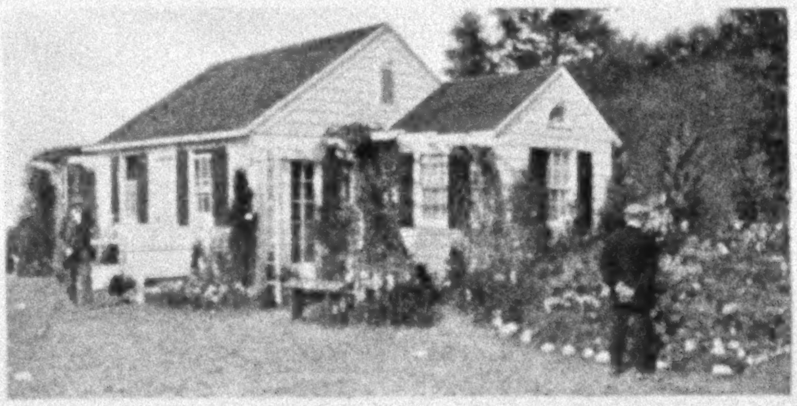

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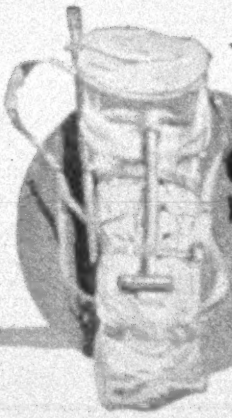

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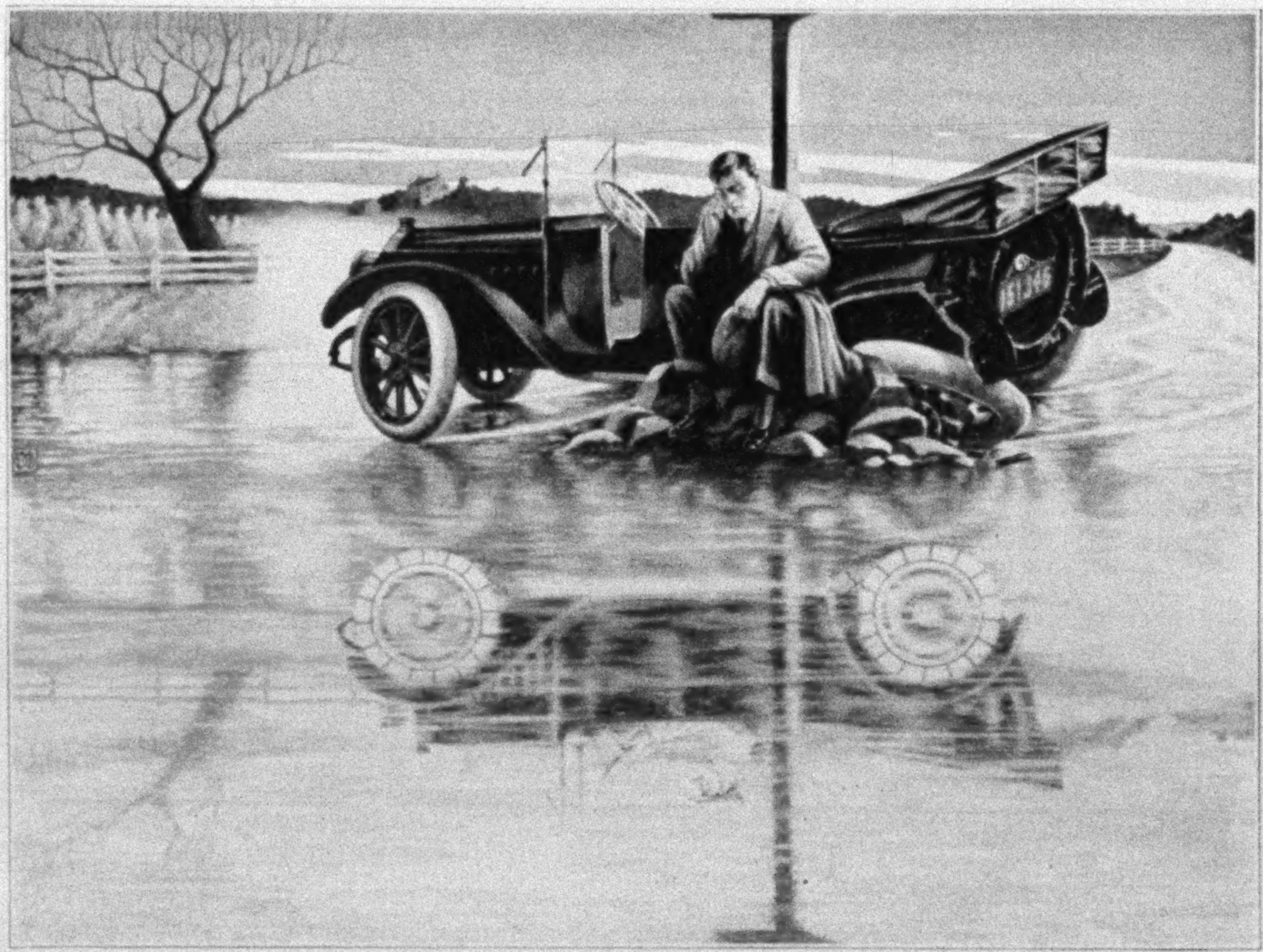

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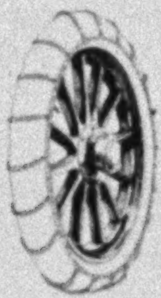

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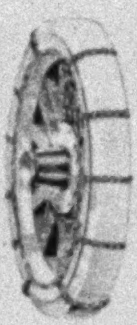

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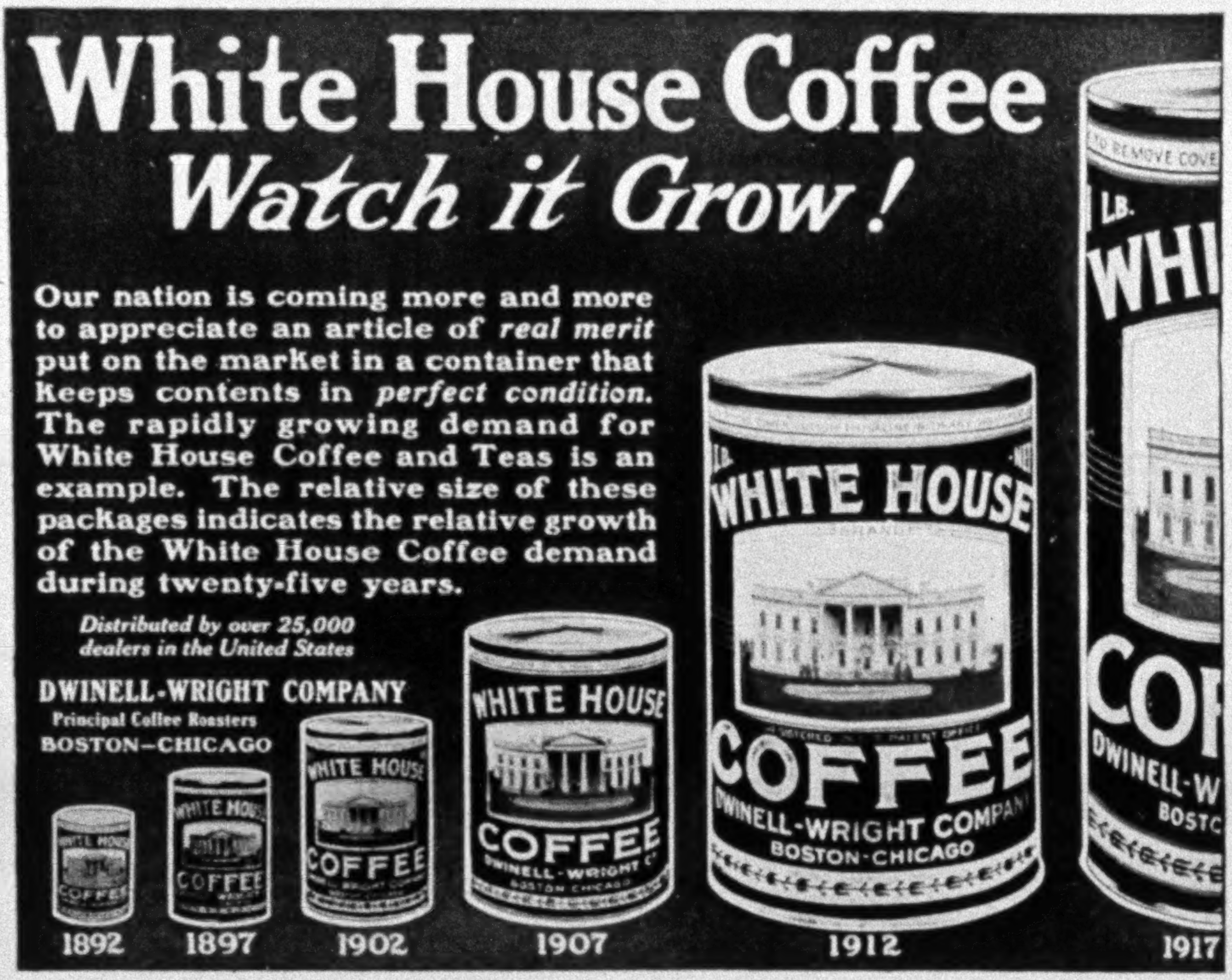

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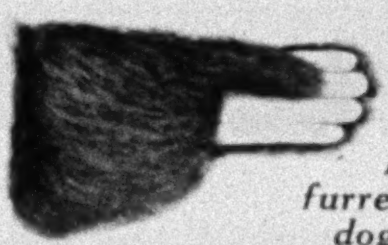

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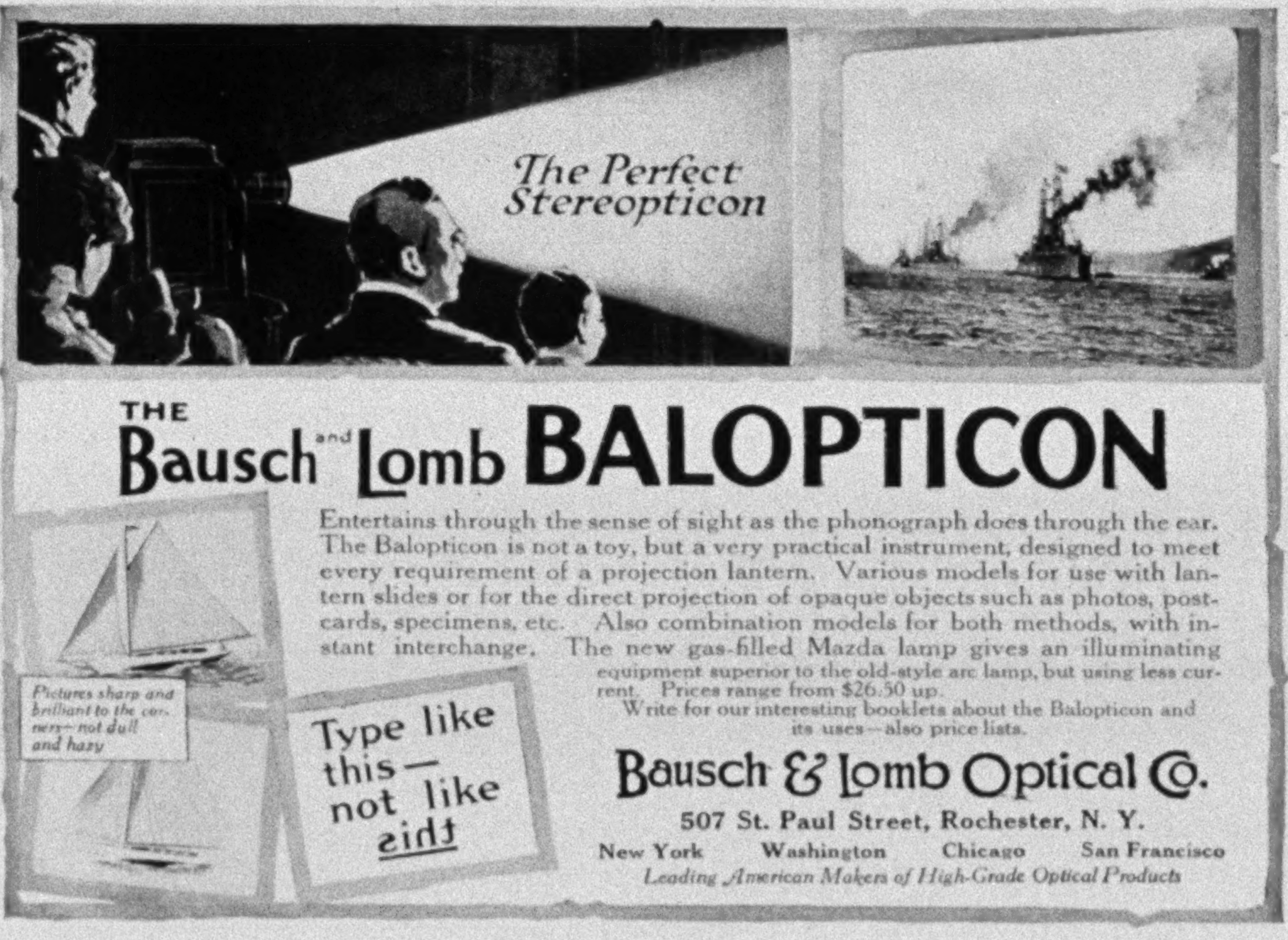
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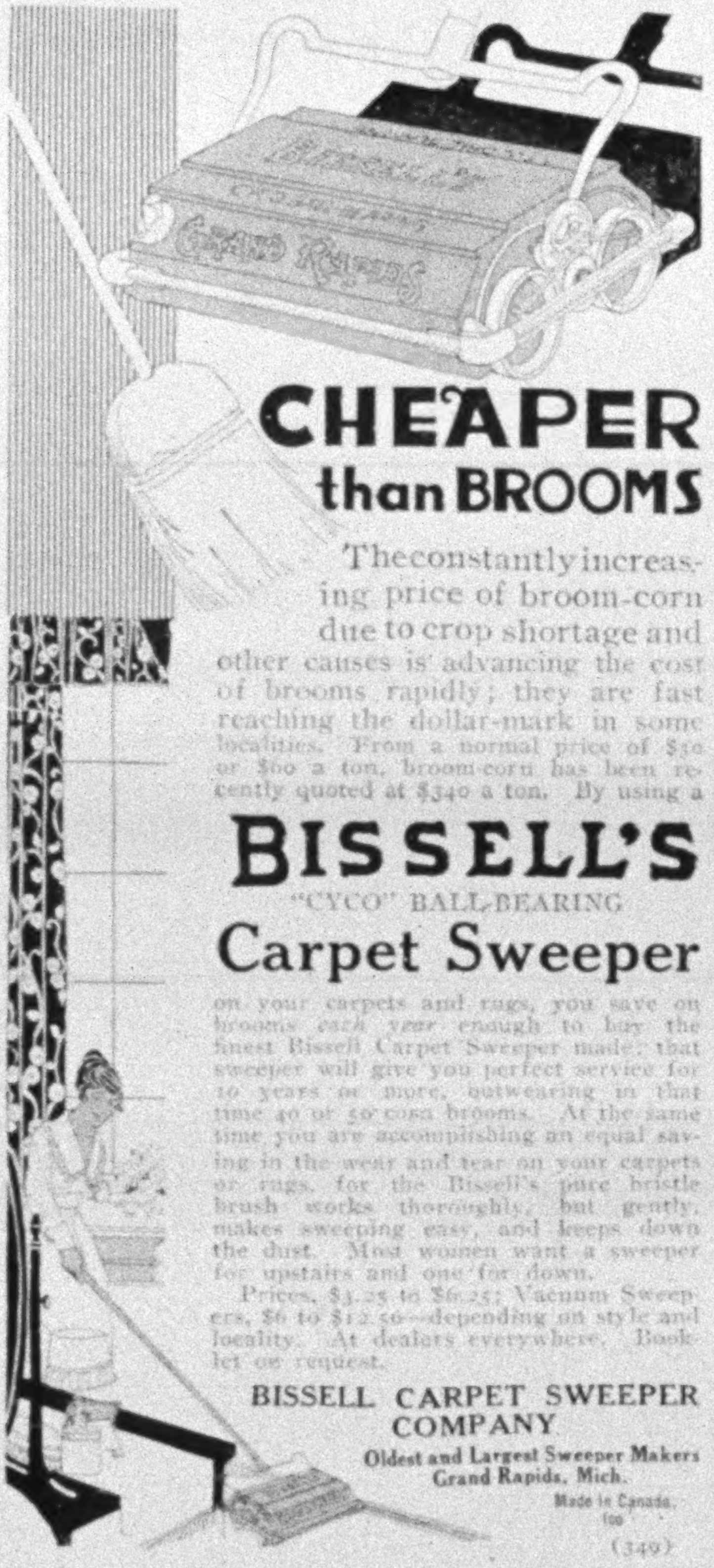

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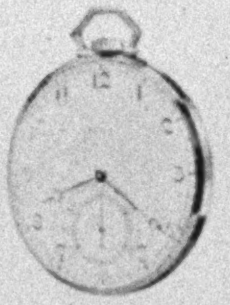

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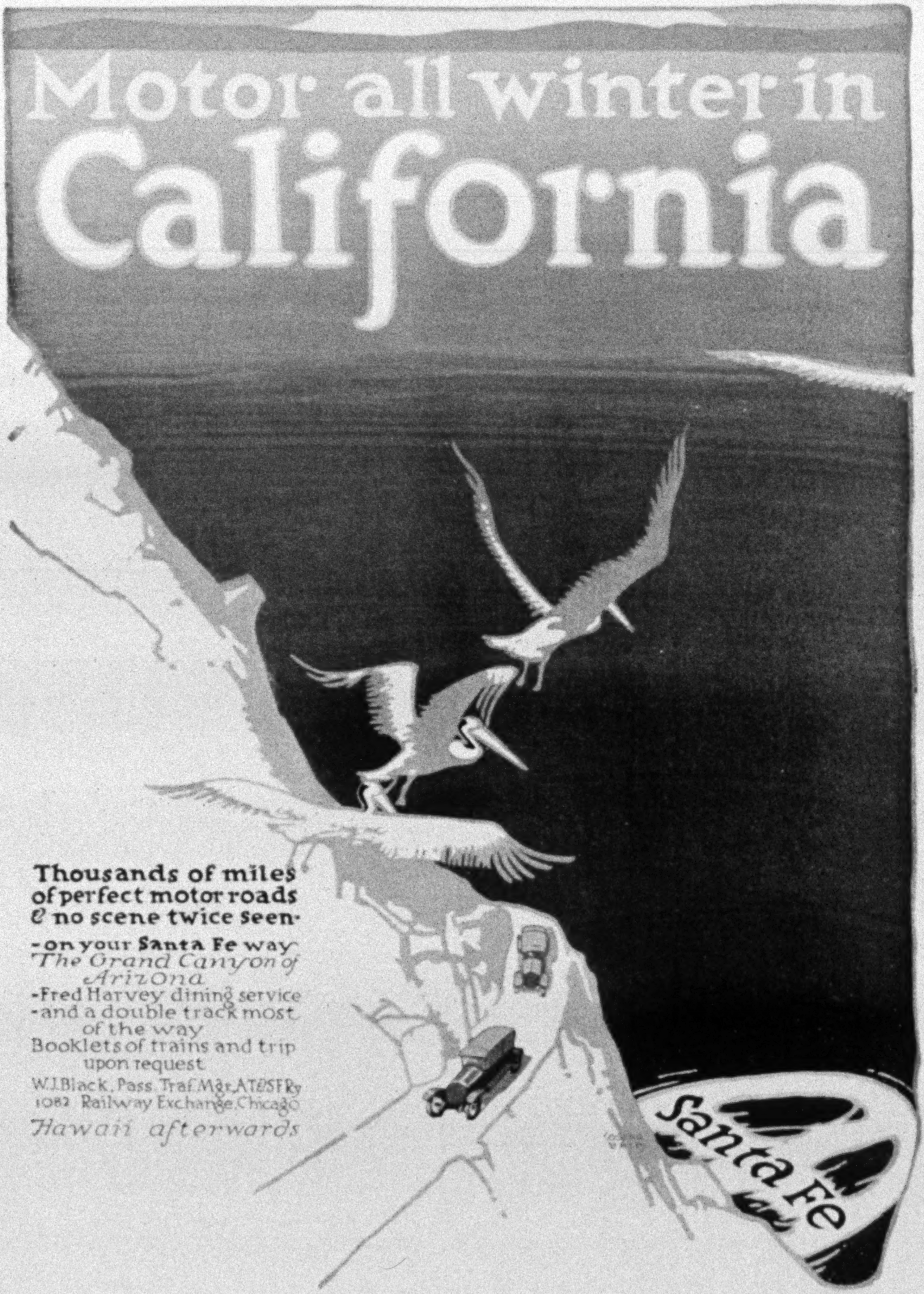

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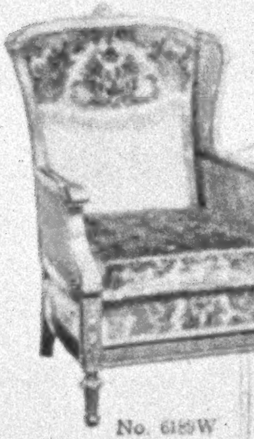

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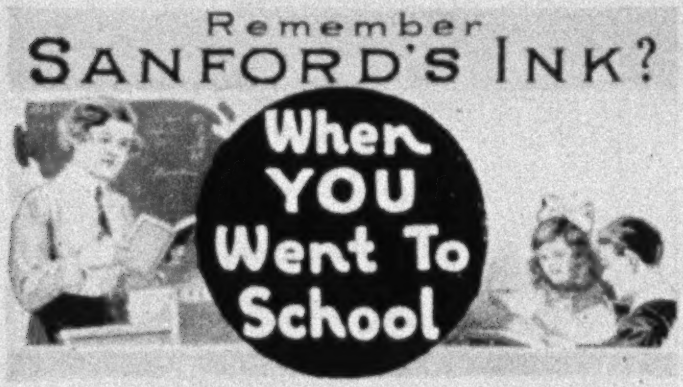

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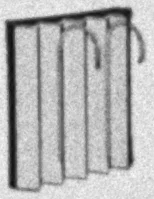

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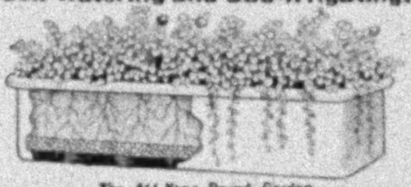

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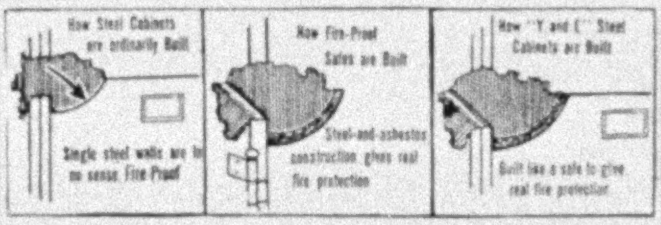
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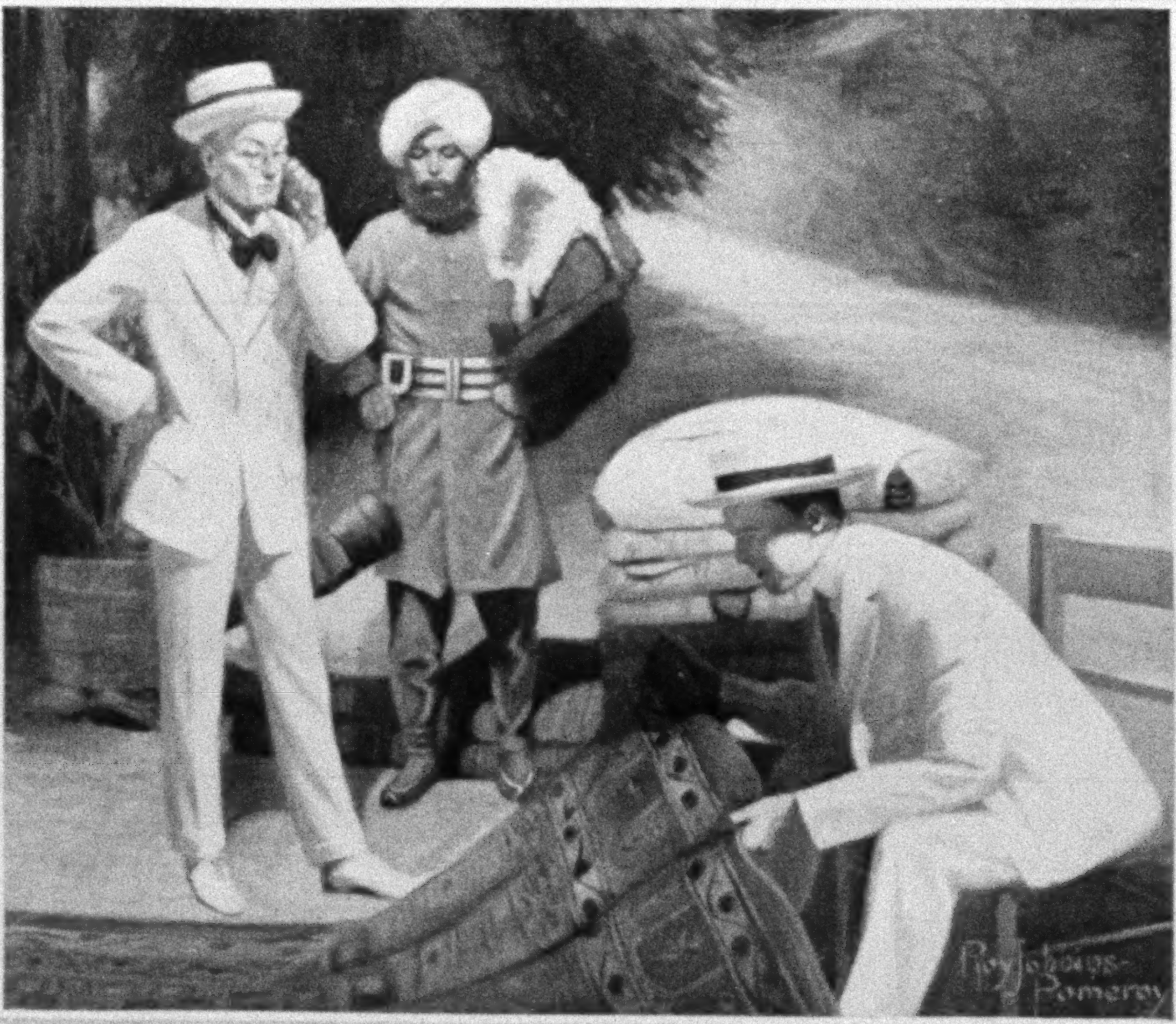
A Comparison of January and December Bond Prices

In order to bring to the attention of investors the prevailing low prices for standard bonds, we have prepared a price-comparison table showing January, 1917, and December, 1917, prices.

This table will be forwarded with our December Bond Circular AN-65 upon request.

The National City Company

National City Bank Building
New York



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PERHAPS no article in home furnishings is selected with such care, thought and deliberation as a rug. And it is equally true that no article receives so little worth-while attention after it comes into the home. Sweeping, or at the best, vacuum cleaning, must suffice while almost everything else not only is dusted but kept as bright as new with soap and water.

Most people hesitate to clean rugs because they think the work requires special skill and secret methods. This probably is true if the rug is dirty through and through. Usually, however, only the surface is soiled. Then, as with numerous other seemingly impossible tasks, the cleaning can be done at home as often as necessary without professional help and at nominal cost by the judicious use of Ivory Soap.

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Sweep thoroughly. Then, beginning at the corner farthest from the door, scatter Ivory Soap Paste (see directions inside wrapper) over not more than a square yard at a time. Scrub vigorously with a stiff scrubbing brush. Scrape off the paste with a metal-edged ruler or a piece of zinc. Wipe thoroughly with a cloth wrung out of clean, lukewarm water. Work with—not against—the nap. Use water sparingly.

No matter how delicate the colors may be, this treatment can do nothing but restore them to their original beauty. For water, used sparingly as suggested, will not injure them, and Ivory Soap cannot harm anything that water itself does not harm.

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VOL. XXXII NOVEMBER—DECEMBER, 1917 NOS. 5-6

THE NATIONAL GEOGRAPHIC MAGAZINE

TRAINING THE NEW ARMIES OF LIBERTY

Camp Lee, Virginia's Home for the National Army

BY MAJOR GRANVILLE FORTESCUE, U. S. A.

SHOULD the spirit of General Robert E. Lee be watching over the National Army cantonment named in his honor, that spirit must follow the training of the eightieth division with warm pride. Perhaps a certain wistfulness would be mingled with that pride, for these loose-jointed Virginians tramp over the ground their fathers made famous in the last battles for the Confederacy. The Petersburg crater, where the bones of Northern and Southern soldiers lie buried as they fell, is but a musket-shot distant from the American flag flying today above division headquarters, and grass-green earthworks, built to defend the city of Richmond, were leveled to make place for the thousand buildings of Camp Lee.

City Point, General Grant's advanced base in the operations against Richmond and the Army of Virginia, which culminated in that pathetic episode staged in Appomattox Court-house, lies six miles northeast of the cantonment, while Petersburg, where the ill-fated General A. P. Hill maintained headquarters until he was killed, is three miles to the west.

BLEEDING WOUNDS OF OUR CIVIL WAR HAPPILY HEALED

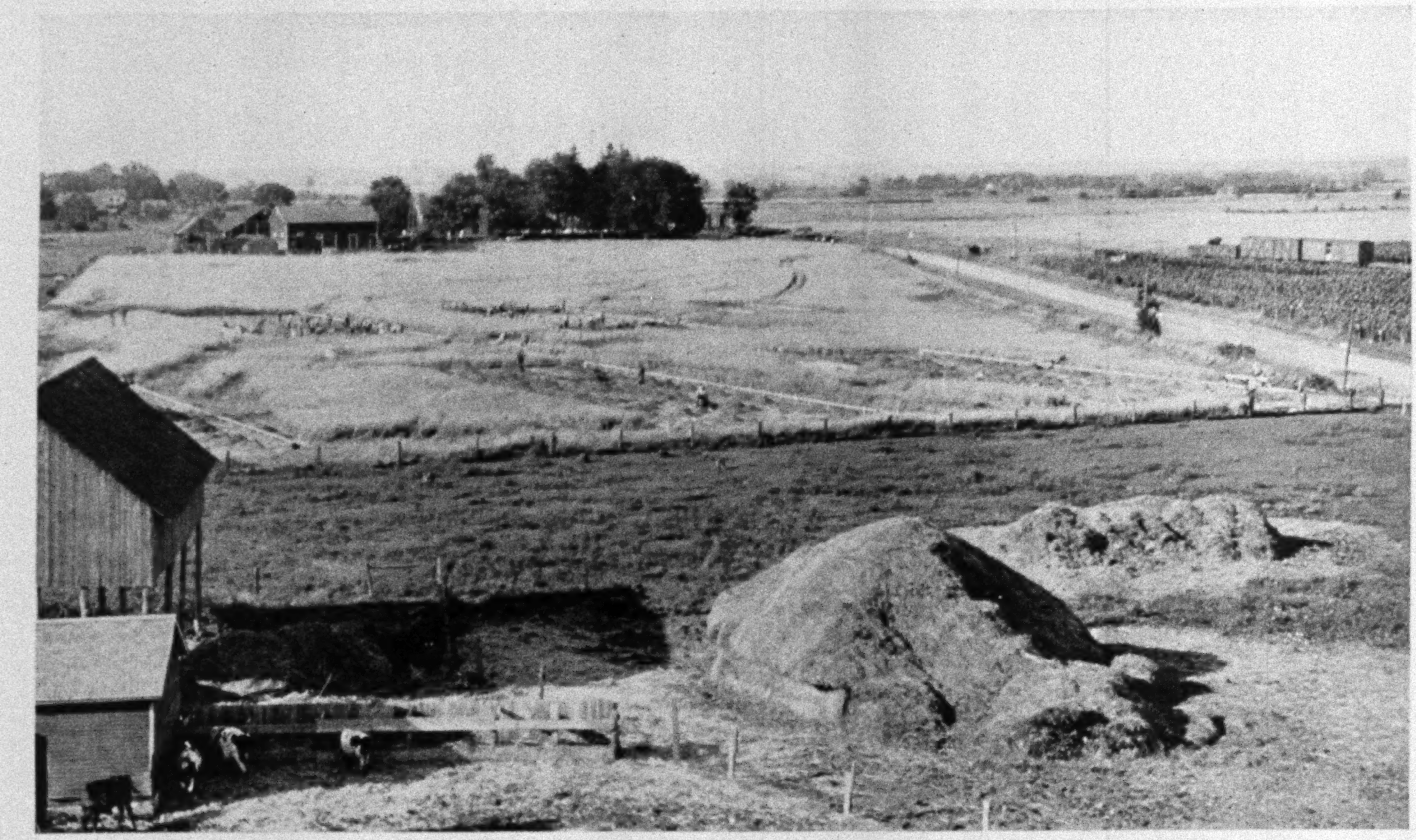
The significance of naming Camp Lee lies deeper than the simple honoring of a splendid Southern soldier and Christian gentleman. Behind that honor lies the fact of the American nation strongly united. The bleeding wounds of the fratricidal conflict of 1861-1865 are healed, leaving not the faintest cicatrix behind. Here, on the ground where that bloody national struggle reached its climax, Virginians proudly wear the uniform of the United States Army and loyally salute the flag that now symbolizes freedom throughout the world.

In the struggle which the nation faces, the South vies with the North in giving its all for the cause. Virginians these men are through honorable tradition, but today, before the proud State title, they place their claim to being Americans.

When the benefits that come to the nation through the creation of the National Army are ultimately catalogued, the fact that it has welded the country into a homogeneous society, seeking the same national ends and animated by the same national ideals, will overtop all other advantages. The organization of this selected army fuses the thousand separate elements making up the United States into one steel-hard mass. Men of the North, South, East, and West meet and mingle and on the anvil of war become citizens worthy of the liberties won by the first American armies.

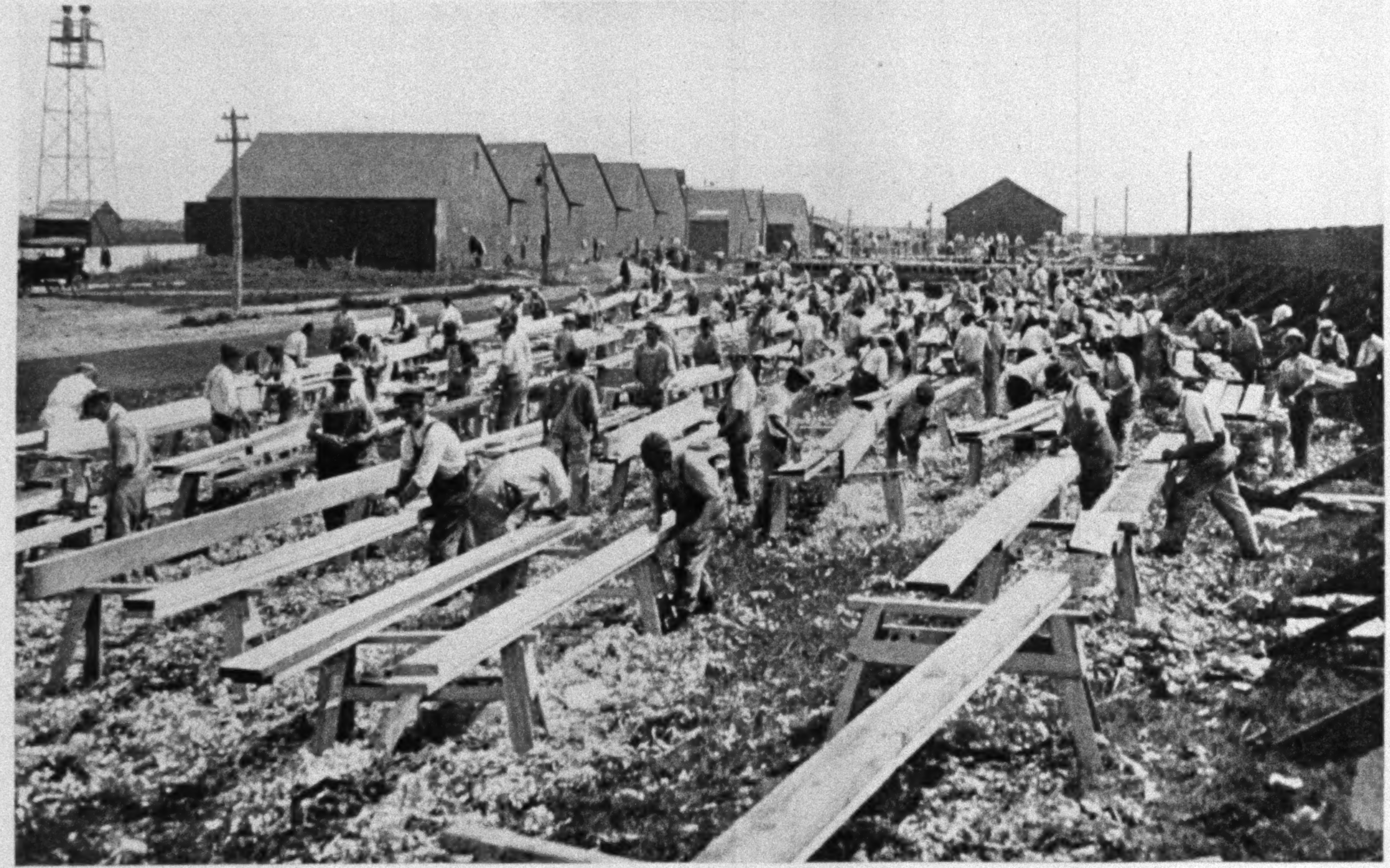
Here in Virginia the last vestiges of sectional divergence disappear, and in

XUM



THE FIRST STEPS IN CONVERTING A PROSPEROUS FARM INTO A SOLDIER CITY OF 45,000 INHABITANTS, AN UNDERTAKING ACCOMPLISHED IN LESS THAN THREE MONTHS (SEE PAGE 423)

When the government assumed the task of housing its newly created National Army it called into consultation the foremost town-planners, water-supply and sewerage experts, architects and builders. These specialists, cooperating with the Cantonment Division of the Quartermaster Corps of the army, perfected the standardized plans which have resulted in a building achievement without parallel in the history of the country.



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THE GOVERNMENT'S AVIATION TRAINING SCHOOLS GROW LARGER EVERY DAY

Carpenters working on new hangars. Each day the demand for more equipment and area becomes more pressing. Skilled aviators are being turned out at the various aviation training posts dotting the country. There is no fear of a recruiting drop for aviation service. The keenest enthusiasm and interest are displayed by the young students who impatiently wait to scale with sky-planes the fighting front.

those camps, where the hodge-podge of European immigration assembles, Pole, Galician, Greek, and Sicilian are woven into the woof of the nation.

But before analyzing in detail the national transmutation brought about by the call to arms, let us consider how the War Department, for the whole of this gigantic work has fallen upon that executive branch of the government, met the physical problem involved.

The tales of the mushroom growths of mining cities in the West and in Alaska fail in interest when compared with the story of the creation of the 16 great military cities that today dot the United States. National life is turned from its channels. Whole populations gather, move, and gather again in new centers to begin life that to them is as new as would be the conditions of the mining camp to the tenderfoot.

HOW THE BUILDING OF 16 SOLDIER CITIES BEGAN

But in the cities of the National Army cantonments no detail was left to hazard. The garish, irregular outline of the bonanza camp, that symbolized its equally loose and careless organization, finds no duplicate where our citizen soldiers train. Everything is regular and in order here, and the first view of one of these camps must impress the selected soldier with the system that created them, the system combining the fundamental element of military life—order through efficiency.

To understand something of the system employed in the construction of the National Army cantonments, it is necessary to go back to the very beginning of the plan of creating the soldier cities.

That plan was the outcome of the pooling of ideas by the best town-planners, water-supply experts, sewerage experts, architects and builders summoned from the length and breadth of the United States to meet and consult together at Washington. When these gentlemen arrived in Washington they found a quartermaster colonel and three assistants struggling with the colossal task of creating 16 cities, each of 45,000 population. These officers had taken over the work in the line of duty, and were pushing bravely forward with the outlines of an organization far beyond the scale of the Steel Corporation.

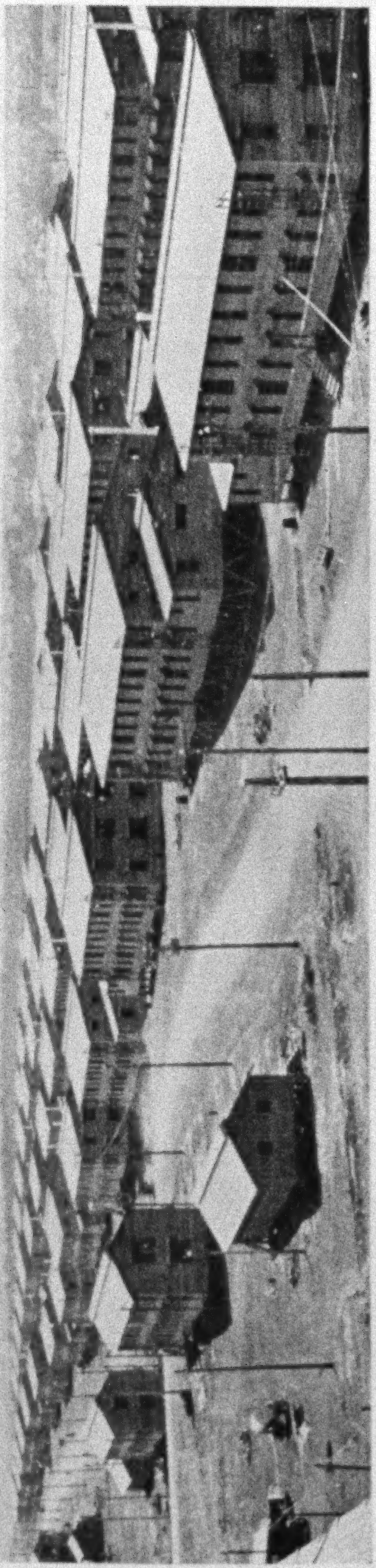
STANDARDIZATION HASTENS CANTONMENT CONSTRUCTION

The civilian experts volunteered their help, and out of their joint deliberations the plan and specifications of the standardized division cantonment were evolved. In order that the work might proceed with regularity and speed, every detail of construction from the elevation and interior of division headquarters to the specifications for train stables and sheds was fixed to standard. Walls, windows, doors, even locks and hinges, must conform to one model. It was decided to provide for every detail of barrack-building, road-building, sewerage construction, pipe-laying, and street-planning with the greatest care in one model cantonment, and then to let that carefully considered scheme hold for the building of all 16 camps. The ground, or the terrain, as it is called in military phraseology, would in some cases necessitate variation in the outline of the streets of the camps; but the standardized shape was to be similar to the letter "U," division headquarters to be situated at the bend of the letter and the soldiers' houses to spread regularly through the branches (see page 437).

It is seen at once that this plan gives a highly centralized city location. Although the measured outline of the branches of the "U" equal 2½ miles, and sometimes more on the ground, all units are compact in themselves and closely united to headquarters. Of additional military advantage is the fact that the camp is located so that the receiving depots and supply warehouses are built facing railroad spurs, paralleling the long side branches of the "U," thus making for the rapid distribution of supplies in the present, while assuring the facile embarkation of troops in the future.

THE "MAIN STREET" OF THE SOLDIER CITY

This is the ideal outline. Needless to say it has been varied. There are "V"-shaped camps, which maintain the same principle, while Camp Lee resembles a huge "I." These variations are due to the accidents of the ground selected for



BUILDINGS OF THE CAMP TRAVIS CANTONMENT NEARING COMPLETION: SAN ANTONIO, TEXAS

the cantonment; for, as far as practical, buildings are erected along the high points.

The "main street" of the soldier city winds from end to end through the trace of the outline. This is a broad avenue, separating the officers' quarters from the barracks of the soldiers, about 100 feet wide and more than 2½ miles in length. Branch streets, running at right angles to this boulevard, separate the battalions of the division, wider avenues the regiments, these latter serving as "fire-breaks." Remember, in a city where all the buildings are of pine, a fire-break is an obvious precaution.

These battalion and regimental streets are about 200 yards long, and form in themselves compact social areas.

Keeping this general plan of the soldier city in mind, consider the different municipal problems involved in providing homes, food, water, and sanitary accommodations for as many people as live in Atlantic City, or Augusta, Ga., or Haverhill, Mass., or Lincoln, Nebr., or Bay City, Mich., or Sacramento, and you begin to grasp what the War Department has effected in each one of the selected cantonment sites; then multiply by sixteen for the total labor involved.

Actually, the soldier cities were built by contract. Firms of long standing in contracting work involving building in all phases considered the War Department plans. Agreements were reached with reliable firms in the different States where cantonment areas were located, and within three weeks from the time the last blue print of barrack plan was traced, work on all the soldier cities commenced.

A PLACE THAT STOOD STILL FOR HALF A CENTURY

In June, 1917, the site of Camp Lee was much the same as it had been in the days of the war between the States, with one notable improvement—a concrete road 14 feet wide ran through the center of the site, from the town of Petersburg to the Dupont powder plant settlement at Hopewell; but the main feature of the landscape presented the same aspect as when the gray-coated soldiers camped here.

A few scattered farms, wood-covered hills, and stretches of close underbrush patched the gently rolling country. The glistening rails of the Norfolk and Western Railroad trailed over this ground to City Point. The site was as bare of the elements that constitute a city as any farm area you may glimpse from the window of a speeding train. Such was Camp Lee before the first timber was cut or the first nail driven.

Behold today that barren area transformed. In your imagination, climb with me to the top of that spindle-shanked water tower that now dominates the scene. Below us are the shining metalled roofs of a thousand houses; grouped as regularly as battle lines of an army, they stretch away in two curves to the east.

A broad belt of road divides the lines of the houses through the center. On one side of this belt are the low structures of the officers' quarters, the administration buildings, and the hospitals; on the other side rise the soldiers' two-storied barrack buildings. These stand in sets of fours, the number necessary to house a battalion, one barrack to a company. Beyond the company barracks are other structures—a house for the band, the regimental general store (where the soldier can buy anything from a cone of ice cream to a set of safety-razor blades and know that the profits thereof will go toward buying extras for his mess), and the buildings of the Young Men's Christian Association. Flanking these are the warehouses.

EFFICIENCY THE KEY-NOTE OF THE CANTONMENT LAY-OUT

The men who planned these cities sought no æsthetic municipal effect; utility was the key-note throughout, and the grenadier-like formations of the row following row of buildings might be criticised on the score of monotony; but for convenience of the officers and men who are working and training 14 hours each day to the end of creating the National Army, they closely approach the ideal.

The new soldiers live within three minutes' march of their work. They have but to cross the main camp road, pass the officers' quarters, and they parade a drill ground suitable for the work of any unit from a squad to a regiment. In a word, officers and soldiers live with their work.

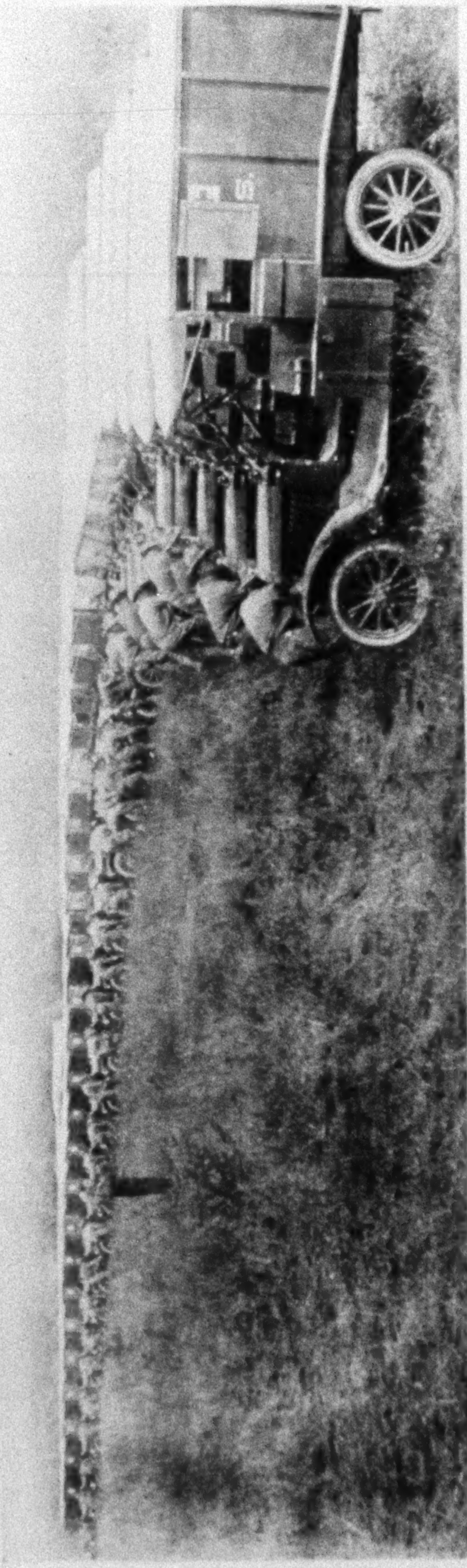
In their unpainted rawness, the houses of this city again bring to mind the new mining camp; but no mining camp ever boasted the water, light, and plumbing installments of the cantonment. You will search in vain for architectural embellishment in any building from one end of the cantonment to the other, but in every barracks and quarters you enter you will find all the items included in the general term modern conveniences—from electric lights to shower baths. These conveniences, which in the United States we have come to look upon in the light of necessities, temper the raw and Spartan simplicity of the buildings.

THE OFFICERS' QUARTERS

The officers' quarters have no advantages not vouchsafed the men, except the very necessary one of privacy. Their quarters are long, low buildings about 25 feet wide by 150 feet long. The battalion commander—remember, the battalion is the cantonment street unit—lives in two rooms at one end of this building, his captains and lieutenants have each one room throughout its length, and in the end is the battalion mess and kitchen. The arrangement is ideal in its simplicity.

Parallel to the row of officers' quarters are the regimental offices, where the colonel, the adjutant, the sergeant major, the supply officers, and staffs conduct the business of the regiment. Here again all is subordinated to utility. Each office is a bare-boarded room, but the never-ceasing tinkle of the typewriters, the ring of the telephones, and the hurrying of orderlies indicate the activities of organization in full swing.

The office buildings face the row of company barracks, the homes of the men of the National Army. All are of the same outline—framed structures, 120 feet long by 40 feet wide and two stories high. At one end of this boxlike building a short extension holds the kitchen. Such is the house where the men sleep and eat; they have all outdoors in which to work and play.



Photograph from Press Illustrating Service, Inc.

"THE MORNING CRANK": AMBULANCE DRIVERS TAKING THEIR MORNING EXERCISE AT MORRISTOWN, NEW JERSEY

Entering the door of the barracks, in the center of its long face, on the left is a door leading into the mess hall. This eating room occupies about half of the lower floor and is separated from the kitchen by a broad serving table.

WHAT THE SOLDIERS HAVE TO EAT

At the meal hours—six, twelve, and six for breakfast, dinner, and supper—the men enter the hall in line and pass around the serving table, where the cooks and "kitchen police," as the helpers are called, pile the metal mess plates with steak, potatoes, rice, and fill the cups with coffee as the men pass. This, with the bread and butter already on the tables, which fill the mess hall, is the average breakfast. Dinner will be stew, with mashed potatoes, boiled onions, peas, bread and butter, a pudding or pie for desert, and tea, coffeee, or lemonade to drink. Supper will consist of fried bacon, cold canned salmon, potato salad, a vegetable, bread and butter, and peaches or some other preserved fruit with which to finish. This is a typical menu for an ordinary day. Whenever the occasion warrants, some little extra is added to the meal. The American soldier is the best fed soldier in the world.

Opposite the mess hall, on the lower floor of the barracks, is the first squad room or dormitory. Here, along the walls and down the center, iron cots are ranged, each with its bed-tick filled with fresh straw. Two olive-drab army blankets cover the bed, and if these are not enough, the soldier will throw his army overcoat over the blankets.

In the original building plans for these sleeping quarters, each soldier was to have a locker to hold his extra shoes, shirts, shaving outfit, and other little knickknacks permitted by the regulations. Being on a war footing, these extras were few enough, but the Surgeon General of the Army struck off the lockers from the barrack furnishings, presumably on the ground they were insanitary, and no substitute has yet been provided. Light and air are the features of the sleeping quarters. About 50 men sleep in the same room.

THE COMPANY BUSINESS OFFICE

Cutting off one corner of the squad room is a small room, about ten feet square, fitted with a desk, a stool, a table, and pigeonholes. From this room the business of the company is administrated. It is the office of the first sergeant.

The second story of the barracks is given over entirely to sleeping quarters, and is large enough to hold in comfort one hundred cots, while in emergency 25 more could be accommodated. The upper story squad rooms in general appearance are similar to large school dormitories.

Many of the men of these Virginia regiments never before saw the luxury of the lavatory conveniences that are built in a small house flanking the barracks—hot and cold shower-baths, wash-boards, every item that modern plumbing provides. Many hotels in the country districts do not boast the style of lavatory here built for the soldiers.

As this is a work army in every sense of the word, in the barracks there is not as much space devoted to recreation purposes as otherwise might be expected. If it were not for army traditions, the mess hall could serve as a lounge, reading and writing room for the new soldiers, and some captains have so far broken with tradition as to allow the men to use the mess hall for these purposes when the kitchen and cleaning work is done. But what with the buildings erected at the instance of the Young Men's Christian Association and the Knights of Columbus, the men of the National Army find a club at the home door.

Beyond the line of barracks is the building for the regimental exchange, which is a sort of village store in each little community, and beyond this is the regimental warehouse, where the clothing and equipment of the soldiers are stored before being distributed.

With this summary of the streets and houses of the soldier city, let us pass to the story of the people living here.

PURE AMERICAN BLOOD AT PETERSBURG

Perhaps Camp Lee, and certainly the 159th Brigade, can claim in its enlisted personnel the purest American blood of any camp throughout the country. Most of these Virginians trace their lineage back to the days of the colonies, and the only noticeable strain that in a few instances colors the Anglo-Saxon is a trace of the Indian.

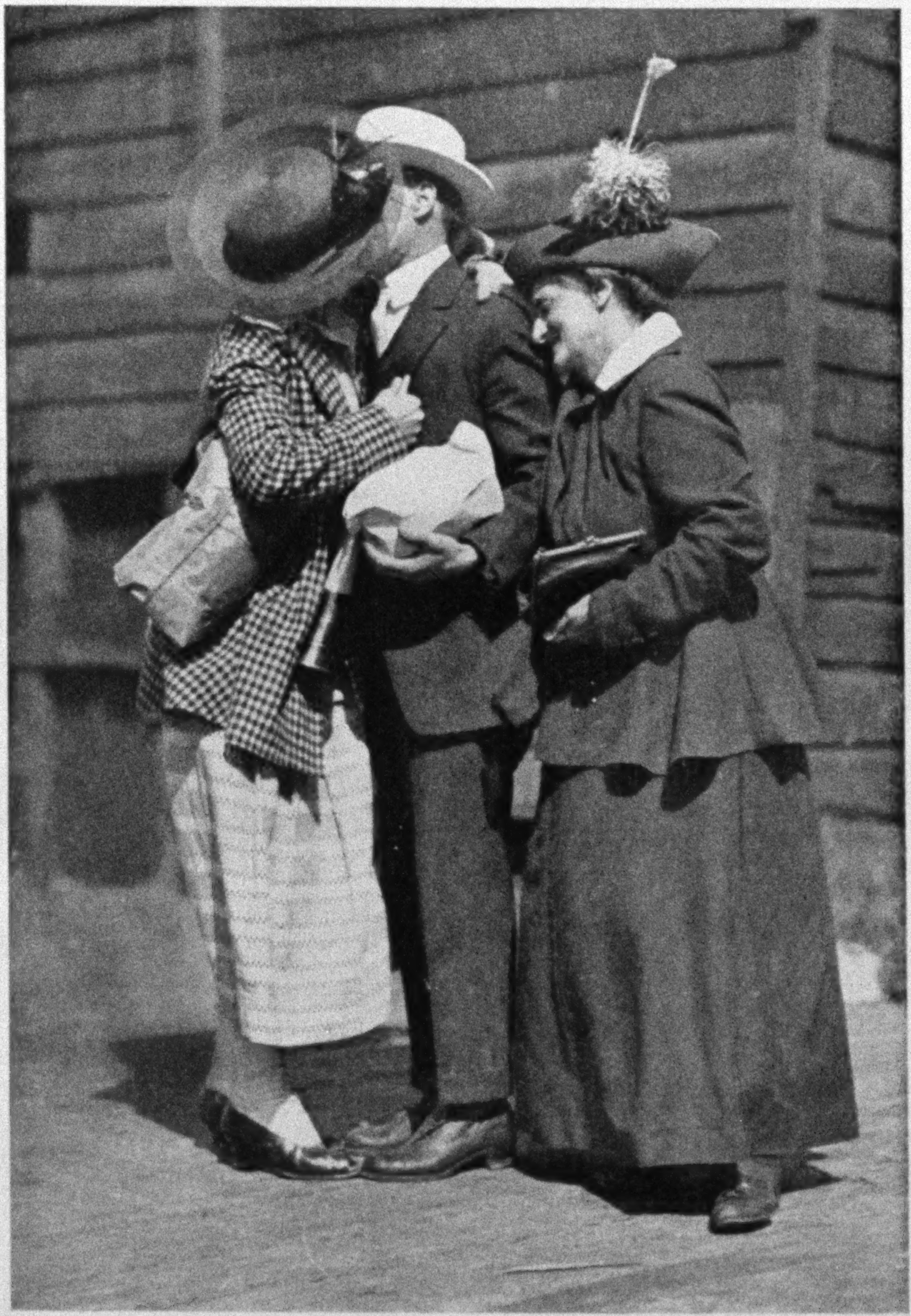
Should an Englishman read over the localization order for this brigade he might imagine it a call for his home soldiers. Men from Middlesex, Surry, and Kent are in one company; in another Westmoreland, Northumberland, and Northampton have furnished quotas, and scattered throughout the other battalions are soldiers from the counties of Lancaster, York, Warwick, Bedford, Richmond, Sussex, Southampton, and Isle of Wight. Company roll-calls sound like a lesson in English history—Buckingham, Brunswick, Cumberland, Bath, and Halifax—or in literature, for one company has a squad composed of Addison, Arnold, Johnson, and Meredith.

One given to philosophizing would have had much to reflect upon could he have seen these descendants of the first Royal Virginia colonists gathered in a hollow square around the division headquarters flag on the anniversary of the composition of the national anthem and heard them sing the "Star Spangled Banner." That ceremony marked a cycle of civilization.

But this camp is a true cross-section of our country, and it would not be fair to allow partiality for our native stock to blind us to the qualities of the Pennsylvanians and West Virginia miners who are selected for the other units of the division.

THE STORY OF THE SERGEANT WHO SNEEZED

These are the sediment of the melting pot. The description is not meant as a reflection on the quality of the men, but rather for the aptitude of the classification. Among them are found Poles, Lithuanians, Greeks, Syrians, Italians, and even Austrians, who have no place here; all the conglomerate mass of hu-



Photograph by Paul Thompson

A GOODBYE KISS

"Just that break with his home community is the hardest trial the new selected man has to bear. In a night he is torn from his family, his father, his mother, often his wife and children, and translated to an environment at once strange and difficult. He arrives in the cantonment a prey to acute homesickness. Once safely past this term of trial, and the new soldier finds life is a succession of interesting and instructive movements."

manity that during the last decade has made its way to American shores. Instead of the old English names of Cox and Boggs and Padgett that predominate in the Virginia brigades, the first sergeant struggles with a list of polysyllabic letter combinations usually ending in "vitch" or "ski." The report goes that one first sergeant of the Pennsylvania company sneezed during his calling of the roll and six men answered "Here!" This may be soldier's hyperbole, but the fact remains that in many instances the aid of an interpreter is necessary in order to get through the routine of daily work and drill.

But it is just these handicaps that bring out the spirit and ingenuity of the officers training the troops. English or, as some prefer to call our idiom, "good American" is the only language permitted, and with constant molding, with that atmosphere of loyalty which always surrounds a military camp, this heterogeneous element is gradually being absorbed into the sinew of the new army.

American history, patriotism, honor for the flag are all part of the daily instruction of the recruit. Some of the officers have ordered the playing of the "Star Spangled Banner" on the company gramophones to be a daily ceremony; and during this ceremony the men stand with head uncovered at attention.

DEVELOPING THAT SUBTLE SOMETHING—MORALE

All this is by way of developing that psychological asset, morale. It will be news to the layman to hear that there is now a corps of psychologists in the army who are to make a study of the mental and spiritual side of the organization. Before the results of their investigations are available our National Army must be ready to do its share in France, so even when he takes up the physical training of his new recruit the officer begins the training of his soul.

This training is forwarded by subtle steps, so that the recruit's average of morale is advanced without his actually being aware of what takes place. Before he has been with his company two days he boasts that he belongs to Company "A" with that tinge of pride which speaks the germination of loyalty. I heard a recruit of less than a week's service whose O. D. shirt still held the creases of the box, telling a soldier of the 47th New York Militia that he was number one of the front rank of the "E" company of the 317 Infantry, with a pride and condescension that left the usually loquacious Brooklyn soldier speechless.

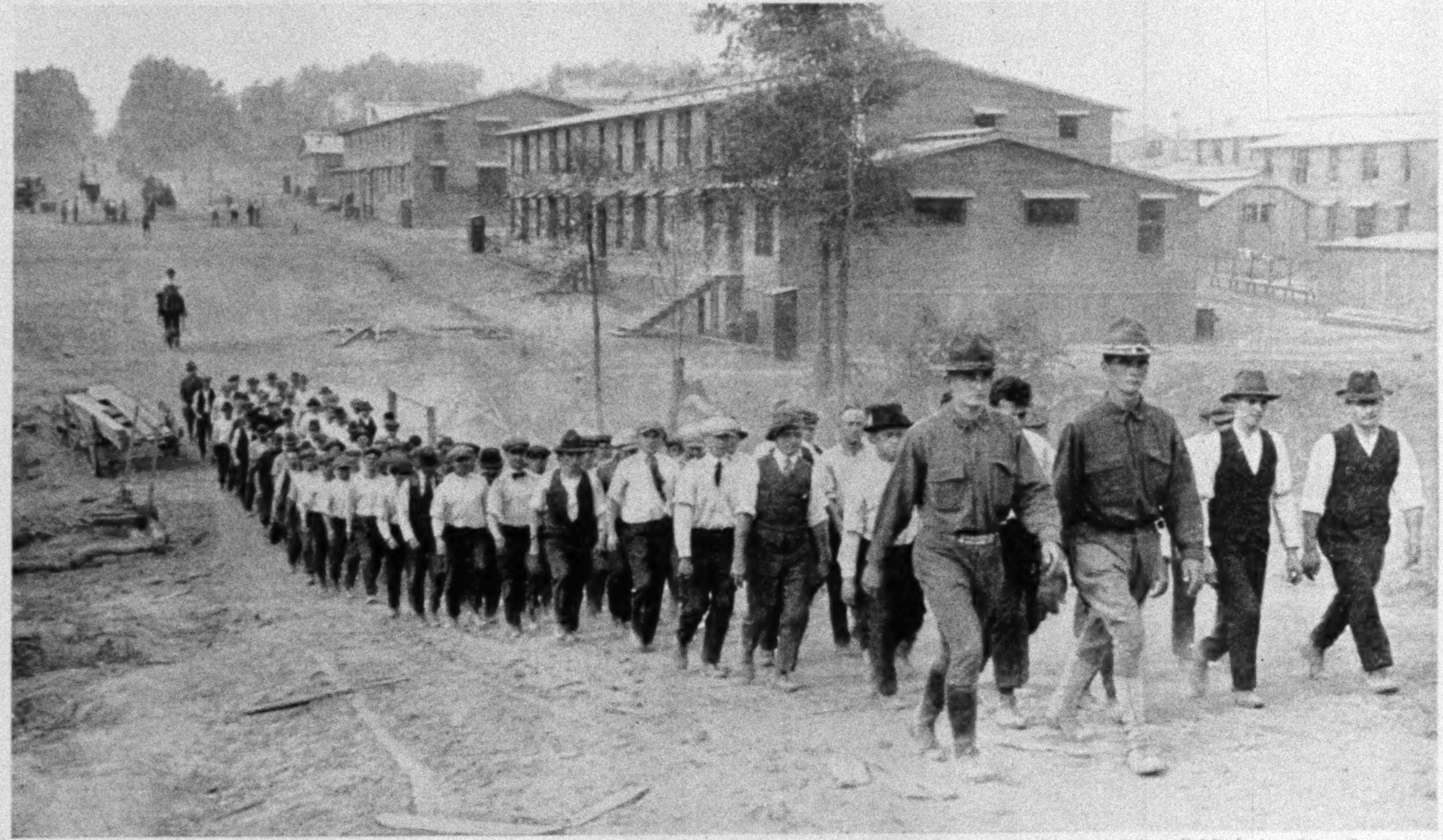
There is nothing in the Drill Book or Army Regulations that instructs the young officer in the method of instilling this most valuable spirit in his men, but without exception officers work in a hundred ways to develop it. It is the fundamental quality of success in war.

THE WORK OF THE PROVOST MARSHAL'S OFFICE

To return to the initial stage of the changing of the citizen into a soldier, the highest praise is due General Crowder, the father of the National Army. This officer is without exception the hardest working man in the Army of the United States. His capacity for 18 and 20 hours daily work has stood him in good stead in solving the administrative and legal technicalities involved in the operation of the selective training law. His was the work of creating an entire system to meet the will of Congress and the President, in the matter of making our army.

The smooth working of the whole conscription operation is the eloquent testimony of how well General Crowder accomplished his task. Beyond his special ability as a creator of armies—this officer can claim to be one of the few masters of pure English—his conscription proclamation will remain a classic example of the correct and forceful use of the mother tongue.

When General Crowder put ~~the ma~~chinery of the call to arms into operation, he opened the flood gates and poured the best physical specimens of our nation into the training camps. No American could see these crowds assemble without feeling the surge of a wave of pride in his nation. Strong, upstanding, clear-eyed, solid men they are, types of the best the country produces.



Photograph from Public Ledger Photo Service

THE FIRST DRILL: CAMP MEADE, MARYLAND

It is, in most cases, the recruit's first experience in military formation and military discipline. If he is from a rural community his attitude toward his company officers at first is apt to be one of suspicion, if not of secret hostility. But in a few days he responds to the spirit of the hour, his latent patriotism is stirred, and he quickly becomes a proud, efficient unit in the army of freedom.

A HIGH ORDER OF MAN MATERIAL

The selected men, as a rule, are far above the average in intelligence and experience and education of the class that formerly drifted into the regular army. Without any disparagement of the older branch of the army, the present recruit, brought into service under the selective law, will improve the tone of the whole service. He is not attracted to the military life from motives of excitement or other motives not so worthy, but he is brought into the army through the operation of a law that does not omit church members from the selected quotas. In the old regiments, church members were the exception rather than the rule.

The tone of the new army can be judged from the interest shown in it by such organizations as the Young Men's Christian Association and the Knights of Columbus.

The captain of the regular army, accustomed to the class of recruits received during the last few years, looks at the present selective army "rookies" with envy. Take a typical company. The age of the 150 men who have already reported averages 24 years and 8 months. The first six squads—that is, the first 48 men in the company—are all over 5 feet 11 inches. Nearly all the professions are represented; a lawyer, a hospital attendant, and a tutor answer the roll, as well as storekeepers, clerks, salesmen, mechanics, artisans, and farmers, not to overlook that very important member of army life—cooks.

One company boasts six cooks, an unheard-of situation in the regular service, where the feeding conditions had become so unsatisfactory under the old system that a professional school of bakers and cooks has been organized of recent years. Graduates of this school are on duty at the camps in order to help out the new men, and I have seen a recently arrived "selected" recruit cook showing a graduate of the bakers' and cooks' school a new wrinkle in frying potatoes.

EVERY TRADE REPRESENTED

With good fortune a captain may find an expert stenographer and typist drafted in his company, who will serve as clerk; carpenters, barbers, tailors, all those useful members of society, will go to make up the quota of 250 men in a company, and it is not rare to find telegraphers, train dispatchers, builders, painters, and workers of all kinds.

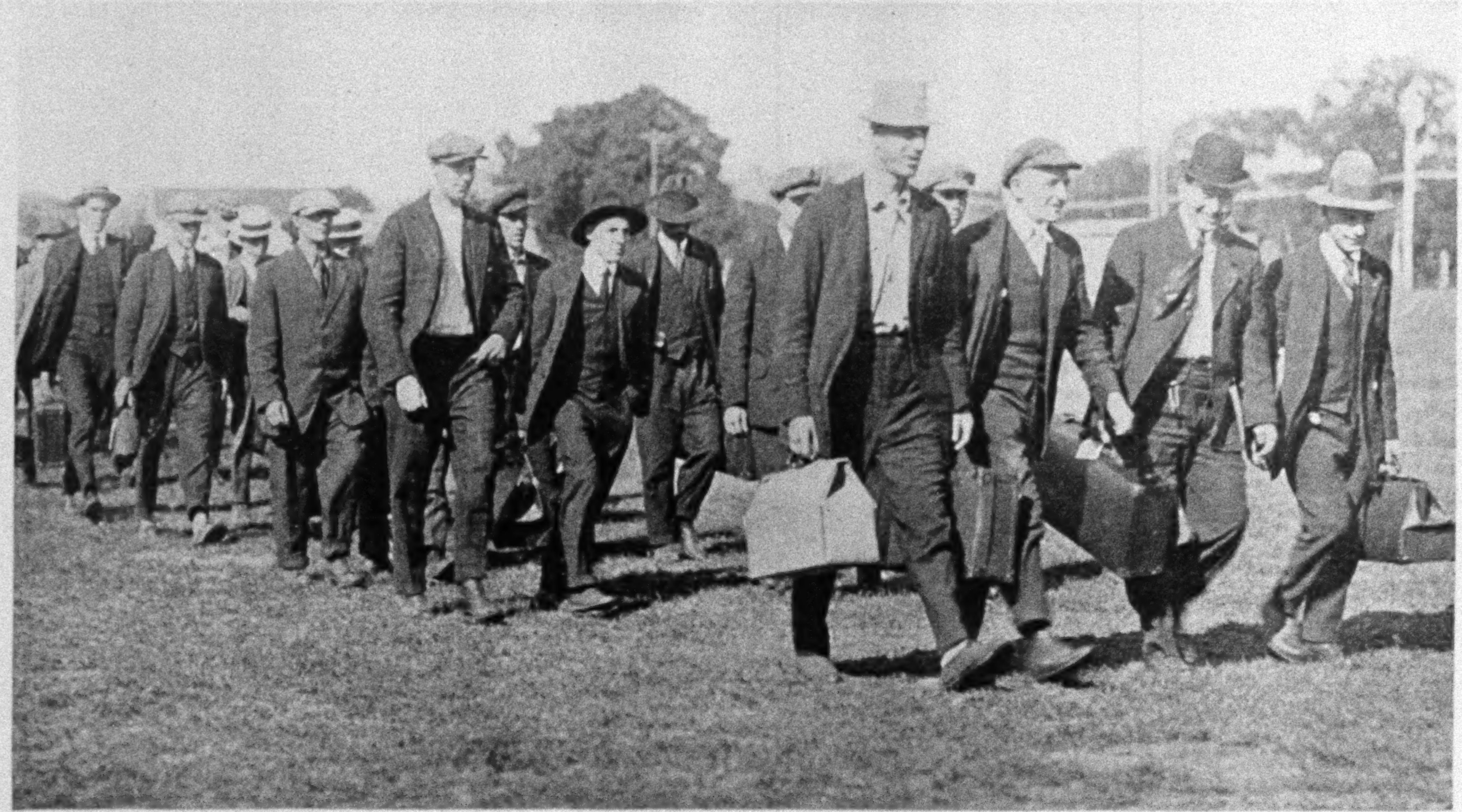
When the selected men are mustered into the service, it is the duty of an officer to make a record of their professions and special qualifications, so that by a simple turning to the statistics the suitable men for any work that arises may readily be found. Out of 150 men questioned in one company, 105 could drive Ford automobiles.

The captain of a company is not, as a rule, fortunate enough to find the workable proportion of the qualified men he needs for the smooth administration of his organization, but through the aid of this statistical record he can exchange an extra cook for a stenographer, a superfluous barber for a mechanic or carpenter; for you must understand that a company must be able to maintain an independent, self-contained existence.

MAKING A SOLDIER IN SIX MONTHS

There is an army proverb to the effect that the non-commissioned officer is the backbone of the service, and in the formation of his company the captain first looks for material that promises to make these important soldiers. In this regard, results that seem startling to the old-time regular are sometimes accomplished in the National Army. I have seen a company commander lucky enough to find the raw material for a first sergeant, mess sergeant, and supply sergeant at the first sifting of his selected men; these were men who had held responsible positions as section boss, steward in a hotel, and small storekeeper in civil life, and their training fitted them, with a few weeks' study, to enter on the work of non-commissioned officers in the army. They are far from knowing the niceties of the drill, but their progress is rapid, and out of their experience and innate ability they quickly fall into the rôles of authority.

That the average American can be turned into a good infantryman with six months' training has long been a theory of mine, and I look forward with confidence to seeing this theory confirmed out



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SELECTED MEN ARRIVING IN CAMP, EAGER TO EMBARK UPON THE GREAT ENTERPRISE OF SAFEGUARDING THE LIBERTY FOR WHICH THEIR FOREFATHERS FOUGHT

A small amount of baggage for a round trip to Europe, but Uncle Sam did not encourage the men comprising his new National Army to bring many personal belongings to camp of the results of the training of the National Army.

It must be added, in order to keep the balance true, that the dragnet of draft sometimes brings to the camp men who fall below the standards of the American city or country life. One company recruited from the hills of Virginia has 30 men in 150 who cannot read and write; another eleven. Here is the other side of the picture. But no sooner do these men settle in their companies than they are sent to school—a long-deferred opportunity—and each night, after the drills of the day are ended, they are taught by one of their officers the rudiments of reading and writing. As a national asset, the broadening and educational development sure to result from military training, combined with the mixing with folks from other sections of our country, will outweigh any temporary economic loss. One company of the Virginia brigade mustered a recruit who had never seen an electric light or a trolley system till he joined.

Bear in mind that the sanitary standards of the army are the highest. Here is another educational feature incidental to the training of the selected men in the cantonments. From the moment the recruit arrives in camp, from the moment he is ordered to take a bath before appearing before the surgeon for his medical examination, he is drilled in the details of personal hygiene. In this age of universal hot and cold running water in all cities, one is prone to forget that in some of the rural districts the old-fashioned Saturday night weekly bath is still the custom; and, if any other more urgent matter displaces the bath hour, ablutions are postponed a week.

PUTTING PRIDE INTO THE HILL COUNTRY RECRUIT

The hill districts of Virginia are notoriously backward in educational facilities and all that follows in the wake of schools—instruction in the care of the teeth, the person, the home—and recruits from the feud counties are at first bewildered by the many exactions making for cleanliness in a cantonment; but contact with other clean, smart well set-up soldiers teaches the new recruit the desirable results of cleanliness. The proverb that "cleanliness is next to godliness" is not without its psychological justification, and as an aid to the implanting of discipline it is second only to the refinements of the drill exercises.

As a corollary of this cleanliness of person, the new soldier learns to keep his barracks, his bunk, his kitchen as spick and span as a New England home after spring cleaning. The civilian having only the slightest knowledge of the duties of a soldier knows that a dirty rifle is a military offense, but few understand that the barracks, the soldier's home, the kitchen, the lavatory, and the grounds are inspected each day so that dirt in the sense of grime is foreign to the soldier's existence. The men quickly come to understand the virtue of keeping themselves and their homes free from dirt, and it is certain they will carry this knowledge back to their home communities when their period of soldiering is over.

DOWN IN THE VALLEY OF DESPONDENCY

Just that break with his home community is the hardest trial the new selected man has to bear. In a night he is torn from his family, his father, his mother, often his wife and children, and translated to an environment at once strange and difficult. Habit is the strongest element in the lives of most men, and in wrenching him from his daily habits of eating, sleeping, working, playing, meeting his friends, expressing his opinions, we play havoc with the recruit's world. He arrives in the cantonment a prey to acute homesickness. Many of these men struggle to hold back the tears the first night in camp—some do not wholly succeed—and the first few days of army life seem to promise nothing but misery.

What adds to this gloomy outlook, reducing the selected soldier to a physical state below his mental plane, is the typhoid inoculation and vaccination. From personal knowledge, the writer can pronounce the typhoid inoculation, especially the second dose, a most depressing experience. Add the pain and discomfort of an infected vaccinated arm to this condition, and the morale of the soldier falls to the vanishing point. Here is the time when he contemplates desertion. The guns of a firing squad executing the death sentence—for death may be the penalty for desertion in time of war—would be a relief the woebegone recruit believes.

Once safely past this term of trial, and the new soldier finds life a succession of interesting and instructive movements. He begins to look around him, trying to appraise his companions and those awesome persons, his officers. He soon finds that his companions are of the same pattern as the folks back home, and he gradually comes to realize that his officers are vitally interested in his welfare and comfort.

Work he must, for the making of any army under high-speed demands, leaves little time for loafing, either on the part of soldier or officer. This work is out of doors. It has some of the elements of a game, and the recruit soon perceives the pleasure of executing the drill with accuracy and precision. And when the drill periods are over, he comes to his ample and wholesome meals with a zest that testifies to the daily betterment of his physical condition. By the time his uniform is given him he feels germinating within him the first seeds of pride in himself, his company, his country.

DEVELOPING REAL AMERICANISM

That is the outstanding feature of this selected army, the rapidity with which the men develop pride in their Americanism. It may be that here in Virginia this virtue is present in a higher degree than elsewhere, but under any circumstances its presence is the strongest proof that the whole idea and principle of the National Army is justified. No one can come into contact with the sturdy Americanism of the men gathered in any cantonment without feeling confidence and pride in the future of our country gained in no other way.

And that is the result of all this social and economic revolution brought about by the creation of a National Army. It turns the youth of the country into better Americans. Patriotism develops through the atmosphere of the cantonment. It is practical patriotism, too, as has been proved in the way the new soldiers have bought the latest issue of Liberty Bonds. That the men of the National Army give back to the government part of their pay is tangible proof of their approval of the draft and its consequences. They have had the time to test some of the results of this country-wide sacrifice. Today the selectman is the staunchest advocate of military training. He has learnt the moral value of discipline. The physical benefits he has gained are shown in clear eyes, flexible muscles, and upright carriage.

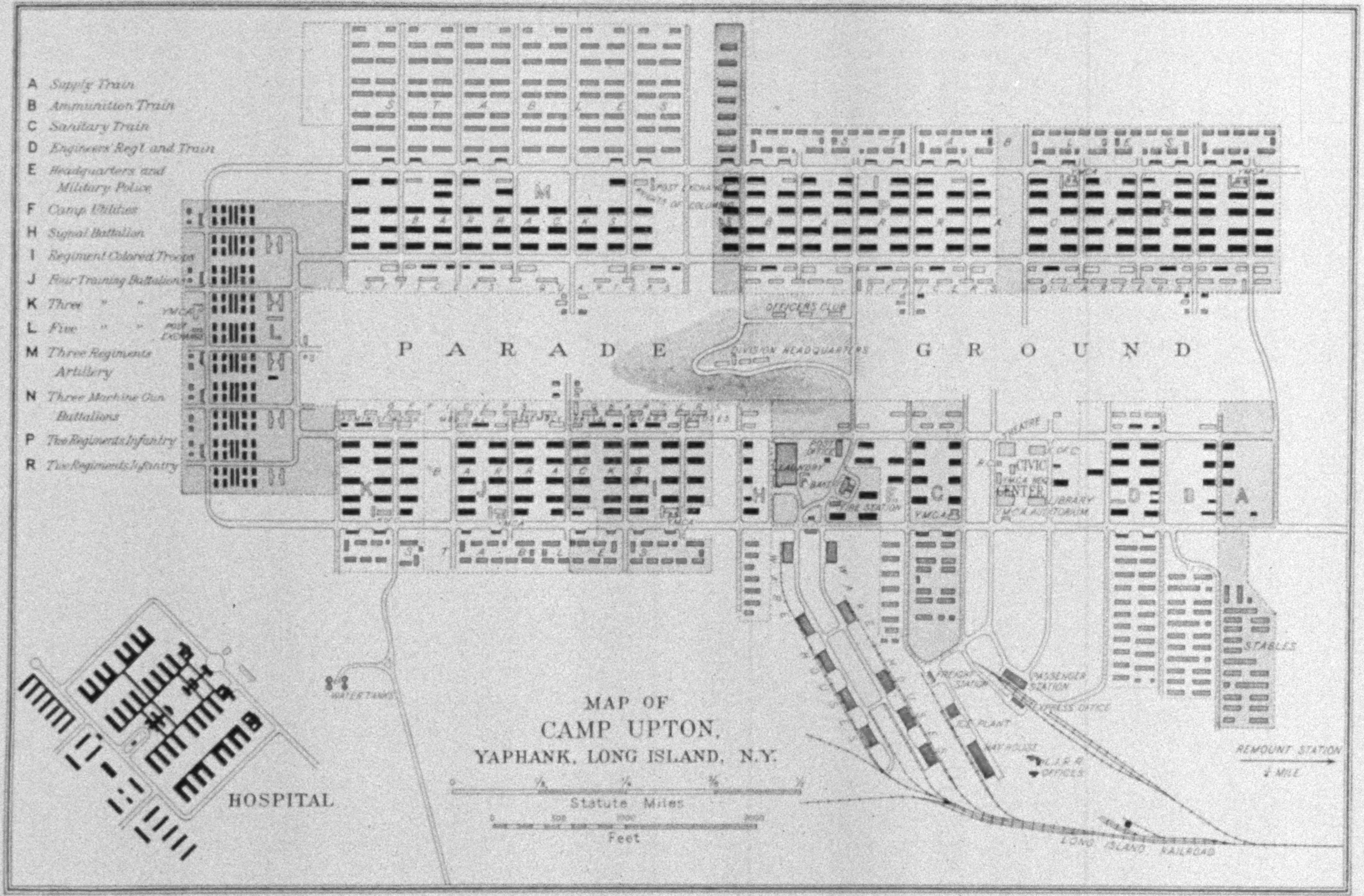
PATRIOTISM NO LONGER A LIP SERVICE

But more than these is the spiritual force that lives and grows in the breasts of the soldiers of the National Army; the value of that force, in the future advancement of Americanism, cannot be totaled in dollars and cents. Patriotism is no longer measured in lip service. Woe to the crafty politician who outrages this spirit now engendering in the hearts of the nation's soldiers by ranting reference to our country and our flag. Men of the new army feel as they never before felt the soul appeal of those words, which have become truly sacred.

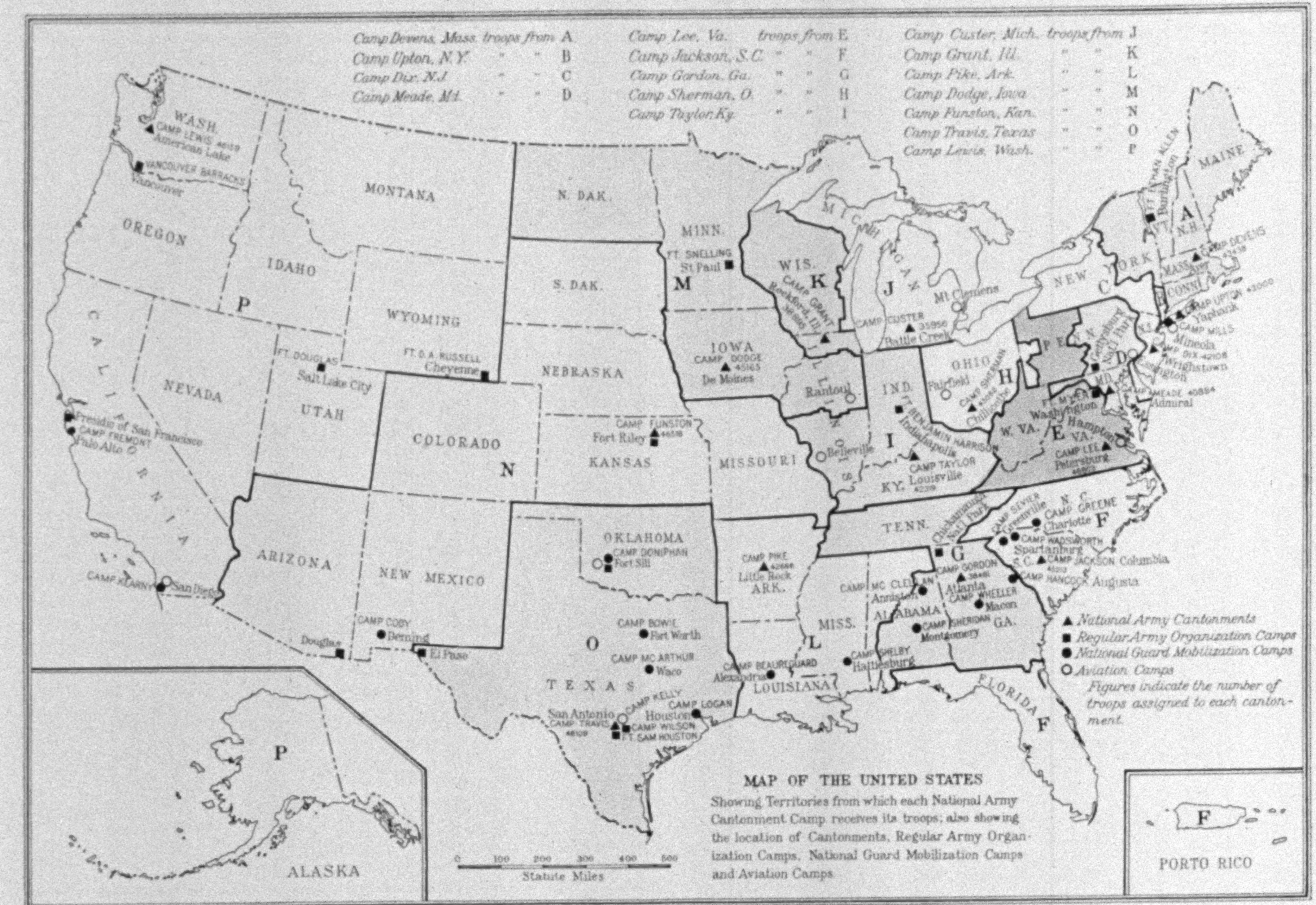
Virginia, with so many historical associations as background, is fitting soil for the growth of this new spirit. Camp Lee shelters men of the finest type of Americanism the United States can boast. The training these men receive, the work they do, and the thoughts of what lies before them, make for a strong realization of ideals heretofore but vaguely felt. These ideals are crystallizing into a national consciousness; for what develops here in Camp Lee must develop through the same motive agencies in all the other cantonments throughout the United States.

With this quickening of spirit in over a million of the youth of the country will come a pride of race and a sense of national honor that will make the men of the new army worthy guardians of that liberty bequeathed by our forefathers.

And when the last sacrifice is demanded these men will willingly make it, knowing that, both as Virginians and Americans, it is their privilege to die that liberty may spread throughout the world.


A Supply Train
B Ammunition Train
C Sanitary Train
D Engineers' Reg't and Train
E Headquarters and Military Police
F Camp Utilities
H Signal Battalion
I Regiment Colored Troops
J Four Training Battalions
K Three " "
L Five " "
M Three Regiments Artillery
N Three Machine Gun Battalions
P Two Regiments Infantry
R Two Regiments Infantry
MAP OF
CAMP UPTON,
YAPHANK, LONG ISLAND, N.Y.
Statute Miles
Feet
PARADE GROUND
STABLES
OFFICERS CLUB
DIVISION HEADQUARTERS
POST EXCHANGE
KNIGHTS OF COLUMBUS
Y.M.C.A.
CIVIC CENTER
LIBRARY
Y.M.C.A. AUDITORIUM
THEATRE
FIRE STATION
LAUNDRY
BANK
POST OFFICE
PASSENGER STATION
EXPRESS OFFICE
FREIGHT STATION
ICE PLANT
L.I.R.R. OFFICES
REMOUNT STATION
½ MILE
LONG ISLAND RAILROAD
WATER TANKS
HOSPITAL

A MAP OF ONE OF OUR SOLDIER CITIES—See Pages 425 and 426


Camp Devens, Mass. troops from A
Camp Upton, N.Y. " " B
Camp Dix, N.J. " " C
Camp Meade, Md. " " D
Camp Lee, Va. troops from E
Camp Jackson, S.C. " " F
Camp Gordon, Ga. " " G
Camp Sherman, O. " " H
Camp Taylor, Ky. " " I
Camp Custer, Mich. troops from J
Camp Grant, Ill. " " K
Camp Pike, Ark. " " L
Camp Dodge, Iowa " " M
Camp Funston, Kan. " " N
Camp Travis, Texas " " O
Camp Lewis, Wash. " " P
▲ National Army Cantonments
■ Regular Army Organization Camps
● National Guard Mobilization Camps
○ Aviation Camps
Figures indicate the number of troops assigned to each cantonment.
WASH.
CAMP LEWIS 46109
American Lake
VANCOUVER BARRACKS
Vancouver
OREGON
CALIFORNIA
Presidio of San Francisco
CAMP FREMONT
Palo Alto
CAMP KEARNY
San Diego
NEVADA
IDAHO
P
MONTANA
WYOMING
FT. D. A. RUSSELL
Cheyenne
UTAH
FT. DOUGLAS
Salt Lake City
ARIZONA
Douglas
NEW MEXICO
CAMP CODY
Deming
El Paso
COLORADO
N
N. DAK.
S. DAK.
NEBRASKA
KANSAS
CAMP FUNSTON 46518
Fort Riley
OKLAHOMA
CAMP DONIPHAN
Fort Sill
TEXAS
O
CAMP BOWIE
Fort Worth
CAMP MC ARTHUR
Waco
CAMP KELLY
San Antonio
CAMP TRAVIS 46109
CAMP WILSON
FT. SAM HOUSTON
CAMP LOGAN
Houston
MINN.
FT. SNELLING
St. Paul
M
IOWA
CAMP DODGE 45165
Des Moines
MISSOURI
ARK.
CAMP PIKE 42666
Little Rock
L
LOUISIANA
CAMP BEAUREGARD
Alexandria
MISS.
CAMP SHELBY
Hattiesburg
WIS.
K
CAMP GRANT 38695
Rockford, Ill.
ILLINOIS
Rantoul
Belleville
MICHIGAN
J
CAMP CUSTER 35956
Battle Creek
Mt. Clemens
IND.
FT. BENJAMIN HARRISON
Indianapolis
I
KY.
CAMP TAYLOR 42239
Louisville
OHIO
H
CAMP SHERMAN 40066
Chillicothe
Fairfield
TENN.
Chickamauga Nat'l Park
G
ALABAMA
CAMP MC CLELLAN
Anniston
CAMP SHERIDAN
Montgomery
GA.
CAMP GORDON 38461
Atlanta
CAMP WHEELER
Macon
CAMP HANCOCK
Augusta
FLORIDA
F
S.C.
CAMP JACKSON 45213
Columbia
CAMP WADSWORTH
Spartanburg
CAMP SEVIER
Greenville
N.C.
CAMP GREENE
Charlotte
W. VA.
VA.
E
CAMP LEE 46902
Petersburg
Hampton
FT. MYER
Washington
MD.
CAMP MEADE 40884
Admiral
D
PENN.
Gettysburg Nat'l Park
N.J.
CAMP DIX 42108
Wrightstown
Lakehurst
NEW YORK
C
CAMP UPTON 43000
Yaphank
CAMP MILLS
Mineola
CONN.
MASS.
CAMP DEVENS 42418
Ayer
VT.
N.H.
A
FT. ETHAN ALLEN
Burlington
MAINE
ALASKA
P
PORTO RICO
F
0 100 200 300 400 500
Statute Miles
DRAWN BY A. H. BUMSTEAD

MAP OF THE UNITED STATES

Showing Territories from which each National Army Cantonment Camp receives its troops; also showing the location of Cantonments, Regular Army Organization Camps, National Guard Mobilization Camps and Aviation Camps

AMERICA'S NEW SOLDIER CITIES

The Geographical and Historical Environment of the National Army Cantonments and National Guard Camps

By William Joseph Showalter

AFTER the Congress had decided on raising a vast army of citizen-soldiers, and had formulated plans for calling that army to the colors, the Quartermaster General was confronted with the problem of housing the army adequately during the long process of converting it from an unorganized multitude of individuals into a highly developed fighting machine.

Colonel I. W. Littell, since promoted to a brigadier generalship, an assistant of General Sharpe, the Quartermaster General, was in charge of that branch of the Quartermaster General's Office known as the Construction and Repair Division, and it therefore fell to the lot of Colonel Littell to take charge of this great task. For years Colonel Littell had gone about his work just as a hundred other colonels had done, and his appointment to the heavy task of housing all the new military forces was his first introduction to the world at large, even as the appointment of Colonel Goethals as builder of the Panama Canal brought a new national figure upon the stage.

There is no record of what Uncle Sam said to the builder of his soldier cities, but the facts in the case would have warranted his giving these instructions:

"I have placed in the Treasury of the United States, subject to your order, a sum of money which is equal to all the gold produced by all the mines of the world during the past year. With this money I want you to house my armies while I get them into shape. In the first place, I want you to build 16 great military cities in as many sections of the country. These 16 cities must be capable of housing a population equal to the combined population of Arizona and New Mexico. There must also be stable room to care for as many horses as there are in the State of Oregon.

"Furthermore, you must establish hospitals to take care of as many sick and wounded people as are to be found in all the hospitals west of the Mississippi River in normal times.

"Nor is that all. You are to provide all of the mess halls and other general buildings for all of the 16 National Guard mobilization camps. And while you are doing that you will not forget your regular work of expanding and keeping in repair the housing facilities of the Regular Army posts.

"Nor will you overlook the fact that as soon as all that work is under way you will be expected to undertake the construction of the two big concentration camps from which the American army will embark for France and through which its supplies will reach the front.

"Yes, I know it is a large order—in fact, a tremendous proposition—but these are tremendous times, and I'll have to ask you to execute it within four months. Of course, I realize that you will, in its execution, spend the money three times as fast as the world mines its gold, but at the same time I expect you to render an account which will show that every penny has borne an honest burden."

A NOTABLE ACHIEVEMENT IN THE HISTORY OF BUILDING

Such was the order. It has been executed as the American Army always has executed its orders—to the letter!

The story of the 16 National Army cantonments surpasses anything else in the history of building. Such, indeed, has been the transformation wrought at these cantonments that the world might well have believed it all magic had it not heard the rhythmic blows of 25,000 hammers driving home 1,200 miles of nails a day; had it not seen enough lumber go from the country's mills to these camps

Photograph by Paul Thompson

DEFENDERS OF LIBERTY MARCHING DOWN FIFTH AVENUE

In the unpitying school of experience, America has found that Germany fights with the weapons of intrigue within our borders as well as with blood and iron on the battle-line. In Russia and Italy the secret foe within has done more to harm the nation's cause than the open foe without. So, augmented police departments and well-organized home defense leagues must be America's weapons with which to forefend the country from the results of alien intrigue.

to make a boardwalk four feet wide—runners and all—from Palm Beach to Bagdad via Bering Strait and the Arctic Circle; had it not witnessed the movement to their sites of enough material and supplies to load a string of cars reaching from Portland, Maine, to Portland, Oregon, via Boston, Cleveland, Chicago, Minneapolis, and Spokane.

Consider a weekly pay-roll twice as large as the monthly pay-roll at Panama when the canal work was at high tide, and paid off in two hours, where three days were required to pay off the big ditch force. Reflect upon the fact that the expenditure for the 16 cantonments for the month of August was $52,000,000—nearly nine tons of gold, or more than was ever paid out in a whole year on the Panama Canal, until now the world's greatest undertaking!

IMPORTANT DETAILS CONSIDERED IN THE SELECTION OF CAMP SITES

There were many things to consider in the choice of locations. Each camp had to be contiguous to a city, in order to insure a labor and material market within reach, opportunities for camp leave to mitigate the tedium of the military grind, and satisfactory railroad facilities. The topography of the surrounding country, the available sources of an ample water supply, and the problem of drainage were also important considerations.

Some of the sites departed just enough from level to insure good drainage, and for the most part were fine and prosperous farms, as at Camp Grant, Rockford, Ill.; Camp Sherman, Chillicothe, Ohio, and Camp Dix, Wrightstown, N. J. Others were covered with undergrowth and scrub forest, as at Camp Devens, Ayer, Mass.; Camp Upton, Yaphank, N. Y., and Camp Pike, Little Rock, Ark. Others were on military reservations, as at Camp Funston, Fort Riley, Kans., and Camp Travis, Fort Sam Houston, Tex. At Camp Lee, Petersburg, Va., 25 farms were occupied. At Camp Jackson, Columbia, S. C., a negro church had to be razed and several old tobacco barns burned.

With the sites selected and 160 of the biggest sawmills in the United States turning logs into planks, joists, rafters, and studding at an incredible speed, the cities themselves were ready to begin rising from the ground.

The railroads of the country, already sore pressed for rolling stock, already taxed to what seemed well-nigh the limit of war-time demands on peace-time facilities, set aside 30,000 cars for cantonment material transportation, and vast quantities of lumber were moving east, west, north, and south to the camp sites. In a single day there was unloaded at Des Moines 1,890,000 board feet of lumber, the equivalent of 300 miles of 12-inch boards.

One day a one-story office building, some trenching machines, some teams and trucks, and a chaos of materials, and in 48 hours a respectable village. In two weeks the village had grown to a town, and in two months the town became a city.

How the work marched along may be told in the story of Camp Funston. On June 20 a contract for the building of the cantonment was let. For the next 15 days there was little done, because the site was not definitely chosen. There were four available sites on the Fort Riley Reservation, and a civilian board was named to select one of them. The decision was not made until July 5.

Meanwhile the local construction quartermaster, having an inspiration that the site which was finally chosen would be the one, as well as a feeling that taking a chance was better than living out a delay, told the contractor to erect buildings for the quartermaster, the field auditor, and the contractor. These were ready when the site was fixed, and were the only buildings standing on July 5, when the real work began. By July 10 the Union Pacific Railroad had a siding completed two miles long, and later installed more than eight miles additional.

WORKMEN QUARTERED IN CAMPS THEY WERE BUILDING

The buildings followed the standard plans from Washington, which specified that all northern cantonment structures have outside walls and ceilings lined with paper, and that they be wainscoted and lined inside with wall board; all lavatory buildings should have concrete floors and foundations (see also pages 425-427)

XUM

The men at Camp Funston did not stop for Sunday, but worked 10 hours a day seven days a week, with Saturday afternoon off. They worked 65 hours a week and were paid for 80 hours, at Kansas City union labor prices.

Four thousand eight hundred men were housed and fed at Camp Funston when the work was in full blast. The government allowed them to be quartered in buildings which were already finished, except for the wall board work and top flooring inside. Three hundred commissary employees, cooks, waiters, and room attendants were required to care for that half of the force which lived at the cantonment, the other half living in neighboring towns and surrounding country.

The army of builders ate two carloads of beef a week and other things in proportion. Meals were furnished at 30 cents each, the men being required to purchase a week's tickets at a time. This was exactly the rate charged the Americans at the line hotels on the Panama Canal. Quarters were provided free, except that each workman upon first entering the bunk-house deposited a dollar, which was returned to him when he finally left the job.

Special efforts were made to keep the workmen contented and happy. One of the barracks was turned over to the Y. M. C. A., which established outdoor motion-picture shows, where three times a week the best films were shown, free to all comers. A band and an orchestra were organized and baseball teams were equipped.

CAMP NEWSPAPER STIMULATED MEN TO SPECIAL EFFORT

The spirit displayed in the construction of all the cantonments was an inspiration to every one who witnessed the work. A healthy rivalry among the 16 contractors was in evidence everywhere. The contractors at Camp Dix published a construction weekly, which served to fire the zeal of the men there, even more than the *Canal Record* stirred the big army of diggers at Panama. In the *Camp Dix News* the editor put everything of interest to the force, from a description of the cantonment and the week-to-week story of the work's progress, down to a picture of a bare-skinned Chihuahua dog, the camp mascot, and a piece of advice to an unnamed youngster working in camp not to neglect writing to his mother.

Through this newspaper the contractors appealed to their men to help put Camp Dix "first under the wire" of completion. "There are 16 entries," said the appeal, "in the most spectacular race that American contractors have ever been called upon to enter. We have a good start and a fair field and we need only supply the stamina." So, even in building good sportsmanship had its place

MEN BEHIND THE HAMMERS IMBUED WITH PATRIOTIC SPIRIT

The men behind the hammers soon caught the spirit of the times. At Camp Dix the contractors divided their organization into 10 groups, each with a section of the camp to build. Soon the 16-cantonment national sweepstakes event had a side attraction—the 10-section Wrightstown race. Each group at Camp Dix was as keen "to put one over" on its rivals as each contractor was to bring his cantonment under the wire first.

One day one of the competitive groups of camp builders bethought itself of the fact that there ought to be a flag flying over its section. The hat was passed, and from water boy to section superintendent all "chipped in" to buy a starry banner and a flagpole.

With telegrams from the President and the Secretary of War to be read, with speakers of note to set the event in an appropriate wreath of words, and with a band to bring the thrill which the national anthem inspires, Old Glory was hoisted into place. Soon every other section had its flag, each raised with appropriate ceremony, and all unfurled to the breezes through the initiative of the hard-working carpenters themselves.

There was coöperation everywhere. Even the thousands of negro laborers at the Southern cantonments became imbued with enthusiasm for their work and heartily supported every effort to keep the camp sites up to the 100 per cent mark in sanitation, although sanitary science is well-nigh a sealed book to them. Can

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THE SIXTY-NINTH REGIMENT GOING TO A SERVICE AT ST. PATRICK'S CATHEDRAL, NEW YORK CITY

Whatever may be the sacrifices, however bitter the sufferings that await our country on the path of war which she has so unwillingly yet so resolutely taken, one compensation cannot fail to result from the experience of seeing her bravest and best dedicating their lives to the Great Cause. That compensation will be a refined and ennobled American soul.

you imagine several thousand Virginia negroes, in the midst of the watermelon season, with the Hanover crop in all its luscious luxuriance hard by, and not a rind to be found on a camp site thousands of acres in extent? It may have tried their souls to abstain, and yet the site of Camp Lee was as free from watermelon rinds as it was free from polar bears or African lions.

ONE CAMP BAKERY'S CAPACITY 80,000 POUNDS OF BREAD A DAY

With such a spirit as this pervading every cantonment, little is the wonder that in less than four months enough buildings were erected to make, if placed end to end, a continuous structure reaching from Washington to Detroit.

To appreciate the dimensions of the cantonments they must be considered in their units. Camp Devens, for instance, with one exception the smallest of the 16, has a refrigerator plant capable of making 20 tons of ice a day, besides keeping many tons of food chilled to the freezing point. Its beef cooler will hold 120 cattle. The bakery has a capacity of 40,000 2-pound loaves of bread every 24 hours. The auditorium of the Y. M. C. A. has a seating capacity of 2,800 men—nearly one and a half times as many as any theater in the nation's capital.

In small things as well as large the story of the military cities runs into amazing proportions. The 16 cantonments required 350 carloads of cooking ranges for their equipment, 2,500 carloads of heating stoves, and 112,000 kegs of nails. Sold at ordinary retail price, the total product of their bakeries would amount to something like $125,000 a day.

MAKING WASTE PAY

A problem which early arose in planning the cantonments was that of dispos-

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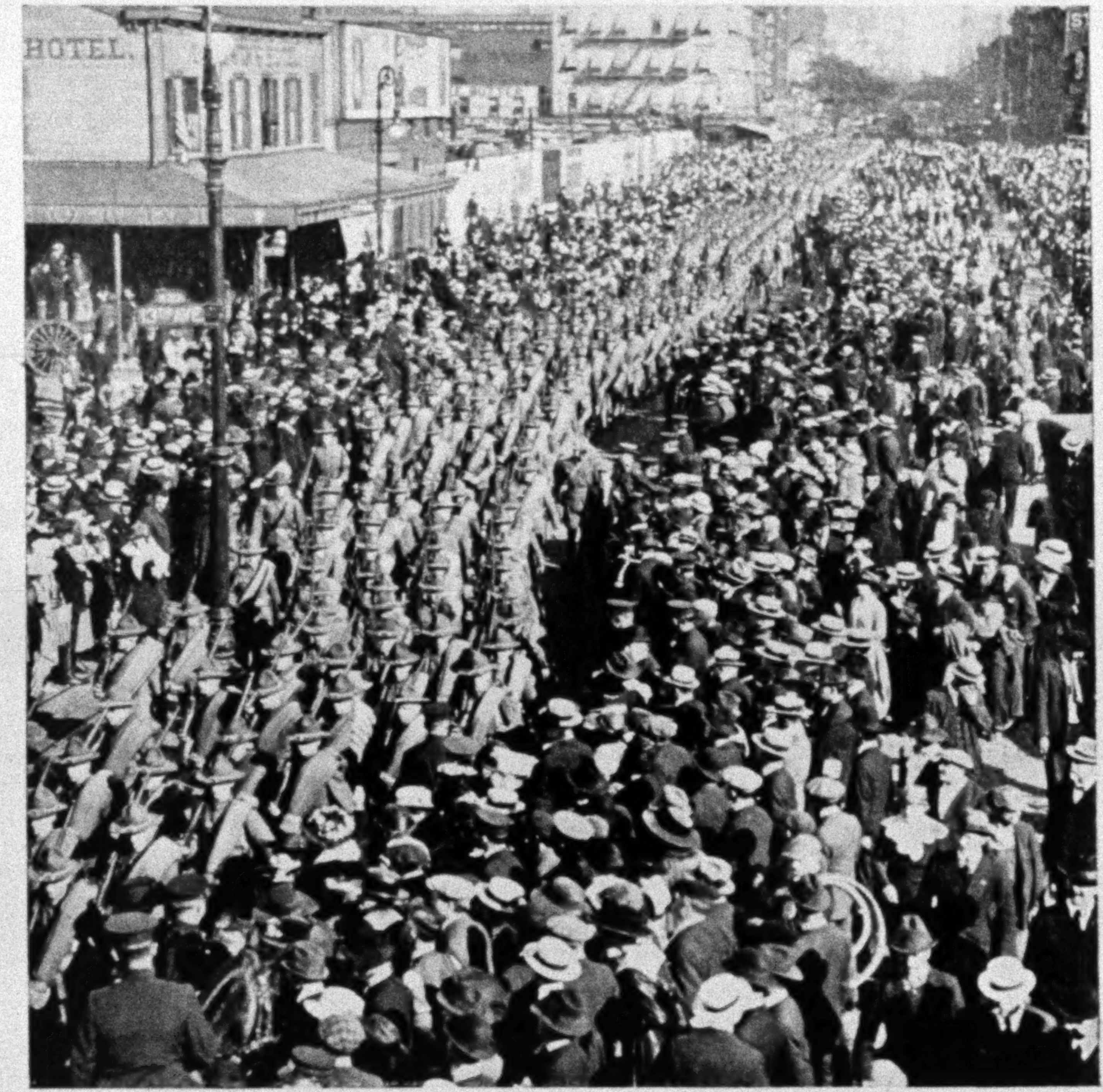

Photograph by Paul Thompson

SEVENTH NEW YORK REGIMENT BOARDING THE FERRY TO GO TO SPARTANBURG

The National Guard forces have been mobilized in 16 tented cities (see pages 467-475), where all is canvas except mess-halls, Y. M. C. A. buildings, etc. Long before the present war was dreamed of, these men believed that America's safety lay in the direction of preparedness, and undertook to give a share of their time to putting their opinions into practice. And the account the National Guard troops in France have given of themselves shows that the time they sacrificed at home is turned to Uncle Sam's benefit abroad.

ing of the wastes. Had it been decided to burn the garbage and other refuse of the camps, the installation of huge incinerators would have been necessary; but happily the idea of the salvage of wastes, something of which armies never thought before this war, was conceived by a National Guard officer from Delaware.

This officer wrote the War Department saying that from his experience in handling troops he believed a great saving could be accomplished by collecting and selling all garbage and refuse.

The suggestion appealed to the Quartermaster General, and the Delaware officer was called to Washington and assigned the work of developing a plan to conserve the waste materials at the several cantonments.

Under his plan all such materials are sorted and placed in separate cans—one for garbage, one for bones, another for fats, another for grease, and others for paper, tin cans, bottles, etc.

The garbage from 13 of the cantonments is fed to hogs. Experience has shown that the garbage incident to the feeding of from 10 to 15 men will feed one hog. On this ration it has been found that the hogs take on a pound of flesh a day for the first 150 days. The garbage from a cantonment is, therefore, sufficient to feed approximately 4,000 hogs, which would show a gain of more than 9,000 tons of meat per year for the 13 cantonments, if the stock is kept up to the maximum number. In the three remaining cantonments the garbage is reduced to grease, which is used in the manufacture of soap, candles, and glycerine.

The bones gathered will first have the grease extracted and then will be ground into bone-meal for fertilizer. The bottles at each cantonment will be sorted, sterilized and used again for commercial purposes. It is estimated that each cantonment will yield about five tons of waste paper a day.

The waste materials from the National Army cantonments and embarkation camps have been sold to contractors for $446,000. In addition to this, the stable manure has been sold for $198,000, making a total of $644,000. Thus not only has there been a salvage of nearly $700,000 from wastes, but an additional saving of $700,000, which, under the old system, would have been expended in the installation of incinerators. To this must be added the saving of $362,000 in the annual cost of operating these incinerators.

HOW DIRT HAS BEEN OUTLAWED

If an army marches on its stomach, it keeps itself in health by its water supply. Nowhere else is cleanliness such a virtue as in the life of the soldier. Until that lesson was driven home by the ever-higher ratio of deaths from disease than from gun-fire, the value of water, good water and plentiful good water, was not appreciated. But when wars were over and statistics analyzed it was found that more men were killed and injured in their battle with uncleanliness than with the foe in front of them.

So dirt was outlawed. Uncle Sam provides in his big cantonments, his training and concentration camps, a water supply capable of meeting any demand that the ends of cleanliness may make. The story of the construction of the water systems of the several cantonments may be told in general terms by describing the system at Camp Dix.

The supply at that camp comes mainly from New Lisbon, more than three miles distant. It is taken from the north branch of Rancocas Creek, the headwaters of which drain wooded, uncultivated land, on which cedar, scrub oak and pine grow. The soil is black and white sand, and through it the water percolates into the drainage substrata. In many places the cedar predominates, and the water coming in contact with its needles and roots is given a slight amber tinge and acquires a faint but pleasant cedar taste.

GIANT TRENCHING MACHINES USED TO LAY WATER MAINS

The three pumps which lift the water out of the creek and drive it three miles across country and up into the huge storage tanks of the camp have each a daily capacity of 1,500,000 gallons of water. Each pump is driven by a steam turbine which occupies scarcely more space than the chassis of an army motor truck, but which is powerful enough to do the work of a thousand men. Every minute of the day and night, it drives a thousand gallons of water up a figurative hill 245 feet high, to the top of the highest water tank in Camp Dix; and it has to fly around at the rate of 83 revolutions a second to do its work.

A 16-inch cast-iron water main, more than three miles long, carries the water to the camp. Giant trenching machines, walking forward at the rate of 120 feet an hour, dug a ditch up hill and down dale four feet deep and 20 inches wide. After the trenching machine came the pipe-layers and caulkers, and behind them the trench-refilling machine, which brought up the rear of the procession, with a filled ditch dragging out behind it.

A giant steel tank 127 feet high, on the camp site, holds 200,000 gallons of water and each of three reserve wooden tanks holds a similar volume. From these tanks the water is conveyed to more than 10,000 faucets, sinks, shower-heads, water-closets, and fire-hydrants by 28 miles of pipes. And these figures are exclusive of the remount station and the base hospital water systems.

It was originally planned that the main pipe line should be of California redwood stave pipe, so as to spare iron for more warlike purposes, but the wood did not arrive fast enough and iron mains had to be requisitioned. Redwood pipe was used at as many of the camps as traffic conditions would allow, for not only does water flow through wooden pipe with less friction, and therefore in greater quantity for a given diameter of pipe, ~~but~~ it keeps cooler in summer and is less liable to freeze in winter. Redwood pipe has been known to be serviceable even after half a century of use. The staves are held together by heavy galvanized wire wrapped at a tension of 7,000 pounds. Before being laid, the pipe is coated with asphaltum.

Despite the utmost precautions taken to insure the purity of the water supply and the elimination of the menace of contamination from sewage, and in spite of all that is done to hold contagion in check by vaccination and isolation, men in the army still need hospitals. There is no place for home nursing in company barracks or officers' quarters.

THREE HOSPITAL BEDS FOR EVERY HUNDRED MEN

Each cantonment has at least 1,000 hospital beds, and some have 1,600. It is estimated that, with adequate provision for emergencies of training-camp life, three beds will suffice for each 100 men.

Eternal vigilance is the price of health in the army, and each hospital is equipped with the most modern of laboratories, where water specialists, food specialists, meningitis specialists, typhoid specialists—in fact, every kind of specialists—labor who can aid, with argus eyed microscopes, in the great work of detecting anything and everything that might threaten the health of the men. Above all things, Uncle Sam is determined that the men he has called to the colors shall have but one enemy to fight, and that disease shall not be permitted to play the rôle of ally to the foe.

WHAT AN AROUSED DEMOCRACY CAN DO

The building of the military cities to house American armies while on the home soil was an unprecedented task, executed in the face of unheard-of difficulties, with unrivaled speed and in an unparalleled spirit. It is America's answer to the world that has mistaken her natural love of peace for an unwillingness to go to war, even for its preservation. It shows what a democracy, aroused to necessities of the hour, can do. It shows that the genius of organization, which is the secret of twentieth century success in war, dwells under American skies, and that the spirit of '76 never dies, but only lies dormant in the years of peace.

THE NATIONAL ARMY CANTONMENTS

CAMP DEVENS

The cantonment at Ayer, Massachusetts, known as Camp Devens, houses the forces of the National Army drawn from New England. It lies to the north of the town of Ayer, on a site that was largely occupied by second-growth scrub timber. The ground is open and porous, as well as rolling, thus insuring good drainage. The site was selected with an eye to having a force quartered near Boston, which is only 30 miles away, to defend that city in the event of any military emergency.

The town of Ayer has an unusual history, as the history of New England towns goes. It is one of the most youthful of all the municipalities east of the Hudson River, having acquired a corporate existence and a name in 1871. The railroads of northern Massachusetts found convenient crossing points in that neighborhood. First there came a signal tower, then a village, and then a community, which tired of being called "The Junction" and wanted a real town name.

This camp has the lowest average temperature of any of the cantonments. On the other hand, it has more cloudless days than any other with the single exception of Deming, New Mexico, which is in the "sunshine belt" of the South-

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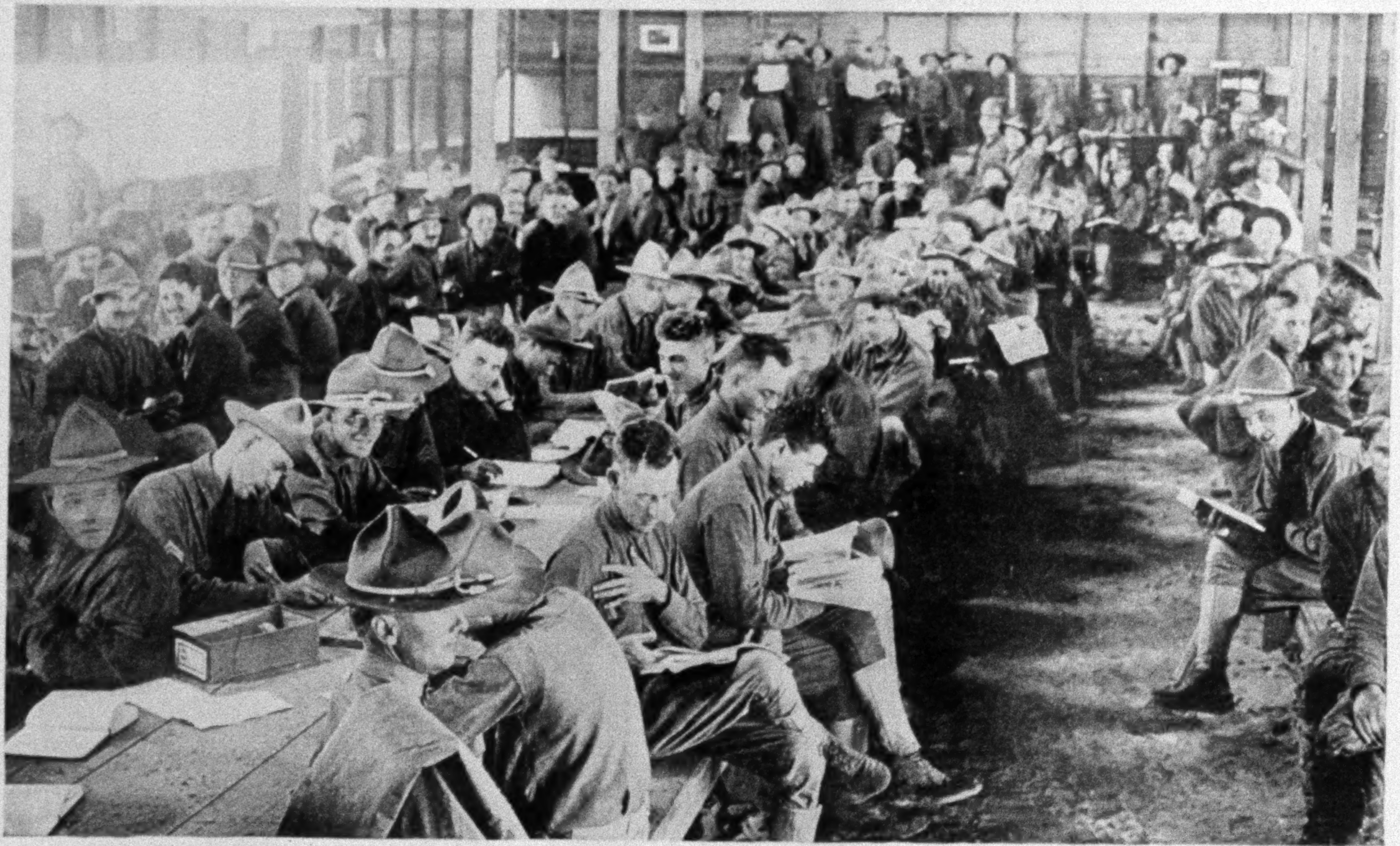
PLAY-TIME IN CAMP

Friendships between men from different parts of the country, soundness of body developed by sport, drill and good food, better standards of hygiene instilled by military life, education through schooling and through broadened experience—all these must be credited to the account of the United States with War when the National Army returns to civilian life.



Photograph from Young Men's Christian Association

AN AVERAGE CROWD IN AN ARMY Y. M. C. A. BUILDING

From eight to twelve Y. M. C. A. buildings similar to this are required at each cantonment and National Guard camp. These buildings could not be started until the government's needs were served and the barracks, hospitals, stables, etc., were completed, but the Association was on the ground with the first of the drafted army, and the tents, abandoned houses, school buildings, and makeshifts where it began work were crowded from the first.

west. Camp Devens' average temperature is 47 and it has an average of 200 cloudless days a year.

The smallest except one of the 16 cantonments, Camp Devens is larger than the neighboring cities of Taunton, Waltham, Quincy, and Pittsfield, being in a class with Fitchburg and Newton.

The men who get camp leave are in easy reach of many places famous in American history. Concord and Lexington, Cambridge and Charleston, and a hundred other places are there to stir men's souls to the spirit of the hour, and to enable officers to say in 1917 what Captain Davis said in 1775, in America's first battle for liberty against a German king: "I haven't a man that's afraid to go."

Camp Devens is named in honor of Brig. Gen. Charles Devens, a native of Massachusetts, whose distinguished services before Richmond in the Civil War brought him the brevet rank of major general. He was Attorney General of the United States under President Hayes.

CAMP UPTON

Camp Upton, which houses the National Army troops from the metropolitan district of New York City, is situated in the very heart of Long Island, about half way between Brooklyn and Montauk Point and equidistant from the sound and sea. It is on the Long Island Railroad, between the villages of Yaphank and Manorville. The region around the camp affords the usual Long Island scenery—a broad, open, level landscape, with many flourishing villages and well-kept country places.

Between New York and Camp Upton lies what has been pronounced the most intensely cultivated region in the United States. The soil is rather poor, but the proximity of the greatest market in the country makes this region a medium par excellence for transforming sun and soil, fertilizer and water, into market vegetables. At no point on Long Island is there an elevation of more than 391 feet and the temperature rarely falls below zero and seldom goes above 90, owing to the tempering influences of the sea. Snow usually lasts for a few days only, and the spring temperature is nearly always 5 degrees above that of the mainland. It ranks third among the cantonments and camps in the number of cloudless days, having an average of 188 a year.

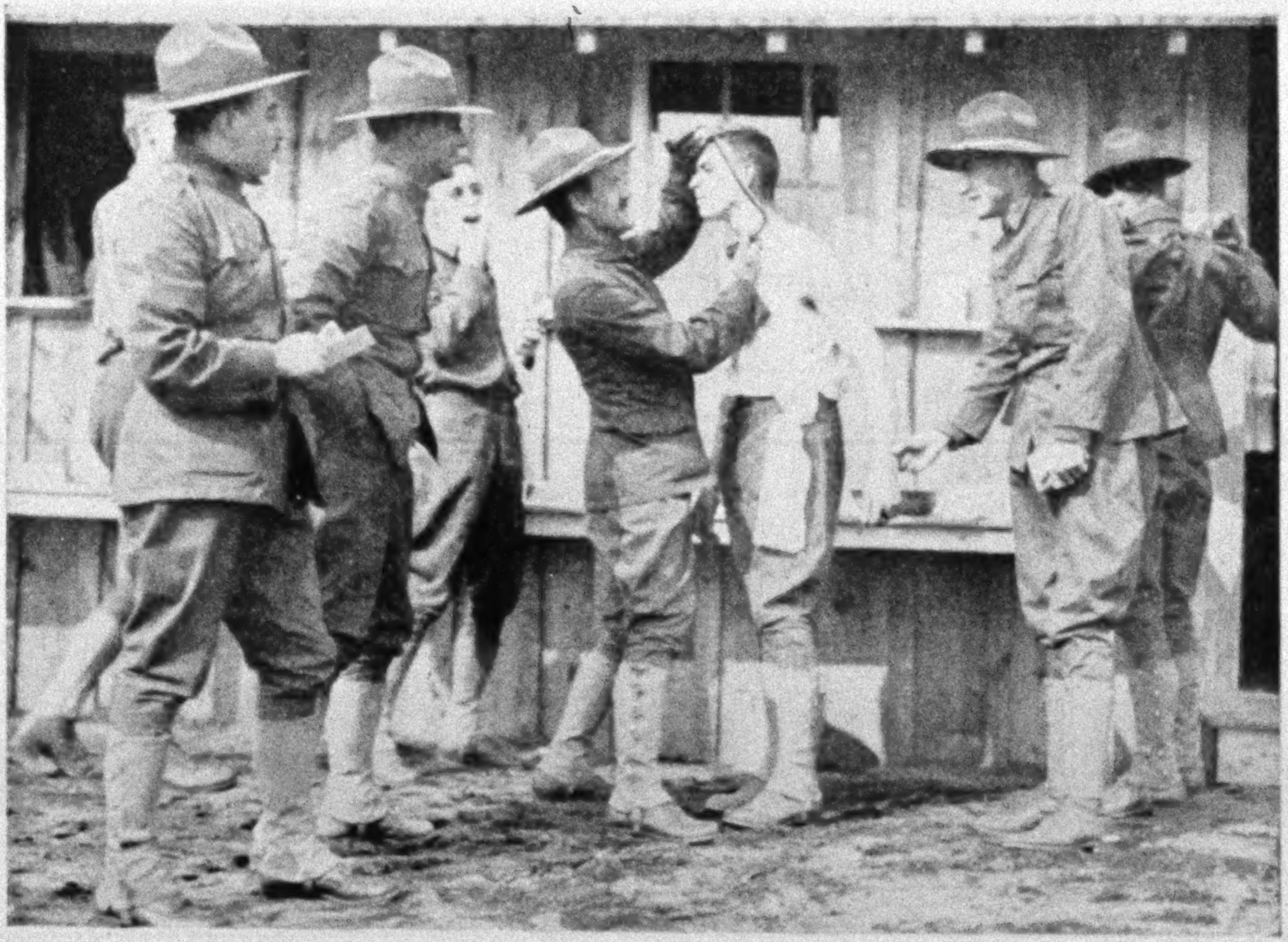
Camp Upton is situated in a striking region. The whole island is founded on rock, although it outcrops only at Long Island City and Astoria. During the glacier age a vast sheet of ice from five to ten thousand feet in thickness flowed out from the region of the Great Lakes and shaved a pathway to the sea, in a southeasterly direction, overflowing the highest mountains of New York and New England, as is shown by the fact that to this day evidences of its eroding passage are to be found on the summits of these mountains.

Before this moving mass of ice all life disappeared. The glacier moved very slowly, perhaps not more than 100 feet a year, or a mile in 50 years. After a journey lasting 25,000 years, it reached the ocean and the vast wall of ice stretched across the Atlantic border from New Jersey to the Arctic Sea.

A huge mass of earth and rocky debris, known as the terminal moraine, piled up in front of the glacier. The ice melted and the debris, which had been scraped from the mountains, was dropped, a portion of it now forming the backbone of Long Island. Again the ice advanced, going just a little farther the second time, and the second range of hills was formed, extending from near Huntington to Montauk Point and Block Island, and including the region surrounding the site of Camp Upton. Much of the debris of this second melting was in the form of a very thick mud, which flowed southward toward the sea and formed the present slightly sloping and very fertile plains of the island.

There are historical associations on Long Island as interesting as its geological history. At Easthampton stands the house in which the man who wrote the hymn common to the English-speaking world, "Home, Sweet Home," was born—John Howard Payne. This cottage is a modest structure, standing on the main street near the center of the village.

At Huntington, not many miles from



Photograph by Paul Thompson

SHAVING A MAN WITH A STRONG BEARD

No, a drawing-knife is not the usual implement with which the company barber removes the soldier's beard. But it does help make a fine picture to send to the folks back home

Camp Upton, is a monument commemorating the unselfish devotion of Nathan Hale to his country when General Washington entrusted to him the task of ascertaining the movements of the enemy. After gathering the information he was betrayed and taken to New York and hanged. His last words were: "I regret that I have but one life to lose for my country." Many a Camp Upton soldier will journey hither and repeat those words in his heart as he dedicates his life to the duties of the present hour.

Camp Upton is named in honor of Col. Emery Upton, who was born at Batavia, N. Y., in 1839 and was graduated from West Point in 1861. He was three times wounded in the Civil War—at Bull Run, at Spottsylvania Court-House, and at Opequan. For gallant conduct at Winchester under General Sherman, he was brevetted major general of volunteers. After the Civil War he served as lieutenant colonel of the 25th Infantry, Regular Army, and later as colonel of the 4th Artillery. He prepared a system of tactics for the service, and from 1870 to 1875 was commandant of cadets at West Point. His writings pertaining to military preparedness are classics of their kind.

CAMP DIX

Camp Dix, where the National Army from western New York, New Jersey, and Delaware is in training, is located near the town of Wrightstown, N. J., on the Delaware River side of the watershed that divides the State into east and west Jersey. The elevation above sea-level is approximately 100 feet.

One would have to travel far to find more beautiful fields or better-kept farms than those which had to be transformed into a training camp for the Jersey and neighboring troops.

Stretching across the State from the Atlantic Ocean below Sandy Hook to Salem, on the Delaware, and passing through Burlington County, in which

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Camp Dix is situated, is the marl region of New Jersey. The marl (an earthy, crumbling deposit consisting chiefly of clay, and greatly valued as a fertilizer) is found at various depths and sometimes lies in beds 30 feet or more thick. The ground above it is rich and highly productive.

When the construction forces started to work on the buildings for Camp Dix they found themselves among great fields of growing corn and ripening wheat. Some of the farmers were very reluctant to move away from homesteads which had been in their families since the days before Washington crossed the Delaware; but the military authorities were patient with them and afforded them every consideration that the exigencies of the hour would permit. It is told that one farmer took the money he received and made a long-deferred trip with his family to the West. When he came back the transformation was so marked that, although he and his father and his father's father had lived and worked upon his farm, he found difficulty in finding his way around.

While Camp Dix is situated in a rich agricultural community, it has the advantage of being contiguous to the pine-barren regions, where ideal grounds for target practice are available. Thousands of acres of these pine barrens have been cleared, so as to permit the training of men in the handling of big guns, as well as small arms.

Gen. John A. Dix, in honor of whom this camp was named, was an ensign in the War of 1812 at the age of 14, and lived to become major general of volunteers in the Civil War. As the President of the Union Defense Committee during the latter conflict, he organized 17 regiments and was instrumental in saving Maryland for the Union. At the outbreak of hostilities he was Secretary of the Treasury. Two revenue cutters were ordered home from New Orleans by him. One of the commanders refused to obey. He was ordered placed under arrest, and Secretary Dix telegraphed the now famous command, "If any one attempts to haul down the American flag, shoot him on the spot."

CAMP MEADE

Camp Meade was built for the National Army forces drafted from eastern Pennsylvania, Maryland, and the District of Columbia. It has a housing capacity greater than that of any city in Maryland except Baltimore. Indeed, its population is twice as large as that of the State's second city—Cumberland.

Situated midway between Washington and Baltimore, the climatic conditions are largely the same as those prevailing at Camp Dix, New Jersey. The average annual temperature is 58, and there are 131 days of cloudless weather a year, with 124 days partly cloudy.

The region around Camp Meade is a quiet, pastoral community, but when the men secure camp leave they are only an hour's ride from Baltimore or Washington. Only a little more than 20 miles away is Annapolis, capital of the State and dear to the heart of every American as the home of the U. S. Naval Academy, where such defenders of the Nation's flag as Farragut, Dewey, Sampson, and Evans were graduated. Within 50 miles as the crow flies are Gettysburg and Antietam, two of America's greatest battlefields.

Camp Meade was named in honor of Maj. Gen. George Gordon Meade, the commander of the Union forces at the battle of Gettysburg, where the tide was finally turned against the Southern Confederacy by the defeat of Gen. Robert E. Lee's forces and the shattering of Southern hopes of success on Northern soil. General Meade was born in Cadiz, Spain, of American parentage, the year that Napoleon was defeated at Waterloo. After the war citizens of Philadelphia presented him with a house, and after his death, in 1872, a fund of $100,000 was raised and presented to his family as a testimonial to his services in saving the Union.

CAMP LEE

Situated three miles due east of Petersburg, on the electric railroad to Hopewell, the magic munition city, and on the Norfolk & Western Railroad's main line to Norfolk, Camp Lee, housing most of the troops of western Pennsylvania and all of those from Virginia and West Virginia, is, with the single exception of Camp Lewis, the largest of all the National Army cantonments. It accommodates 46,400 men, which makes it the third municipality in point of size in the Old Dominion. Only Richmond, the capital, and Norfolk, the chief seaport, are larger. It is twice the size of Newport News, which is doing so much in forging America's answer to submarine losses. The climate is fairly equable, the average annual temperature being 58 degrees, as compared with 47 at Camp Devens, 51 at Camp Upton, and 54 at Camp Dix. About 139 days of the year are clear and 118 partly cloudy (see page 421).

The geography of the Petersburg region made it important in the history of the nation. Situated on the Appomattox River, 20 miles from its confluence with the James, it is the converging point of all the main highways and railroads from the south, the southeast, and the west. Its strategic value gave it a rôle in Revolutionary operations and made it in many ways the key to the Confederacy.

The region in which Camp Lee is located is richly historic. Twenty miles north is Richmond, capital of the Confederacy. Less than forty miles away, is Jamestown Island, scene of the first permanent English settlement in America. A few miles farther will bring the pilgrim to Williamsburg, where met the first elected legislative body in America. Fifty miles to the east is Yorktown, where the French threw the weight of their arms heavily in the balance and helped America achieve her independence. Only 60 miles away is Newport News, with its big embarkation camp from which the men who are now training will sail for France and the fighting front.

Camp Lee was named for General Robert E. Lee, the brilliant chieftain of the Southern Confederacy, who, born in 1807, the son of "Light Horse Harry" Lee of the Revolutionary Army, lived to become universally acknowledged one of the great captains of military history.

CAMP JACKSON

Located in the heart of South Carolina, with its southwestern corner only four miles from Columbia, the State capital, Camp Jackson, where the National Army troops from the two Carolinas will train, has a mild climate, with an average temperature of 63. The weather conditions are similar to those on that part of the French front where it is expected American troops will be sent. The camp site is drained by Gill Creek, and Wildcat Road had to be closed for more than two miles to permit the building of the cantonment.

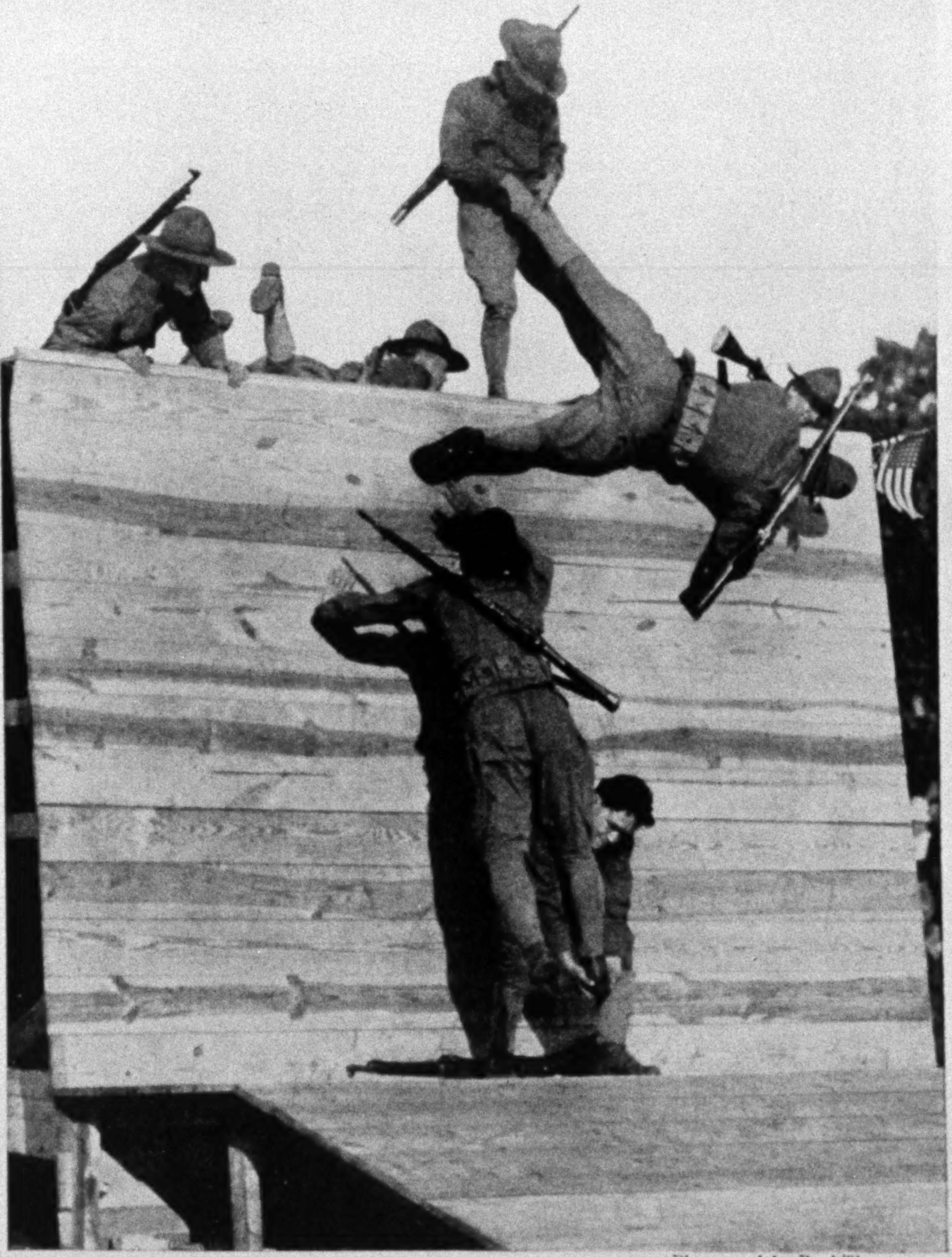
Camp Jackson is within 100 miles of the National Guard Mobilization Camps at Charlotte, N. C., Spartanburg, S. C., Greenville, S. C., and Augusta, Ga.

Columbia is South Carolina's railroad as well as geographic and political center. It is located on the east bank of the Congaree River, at the head of navigation, and is on the dividing line between what is known as the red and sand hills region and the piedmont district. It is in a section noted for its sanitariums and winter resorts.

Camp Jackson is named in honor of Andrew Jackson, seventh President of the United States. North and South Carolina both claim to be the State of his birth. North Carolina says he was born in the Waxhaw settlement, in Union County, N. C., while South Carolinians claim that distinction for a spot near Waxhaw Creek, in Lancaster County, S. C. Jackson always gave the latter as his birthplace, and his most thorough biographer thinks that the weight of evidence favors his South Carolina origin. His father died in Union County a few days before his birth, and his mother went to live with her sister in Lancaster County. The controversy hangs on the issue of whether he was born before or after the mother went to her sister's home.

CAMP GORDON

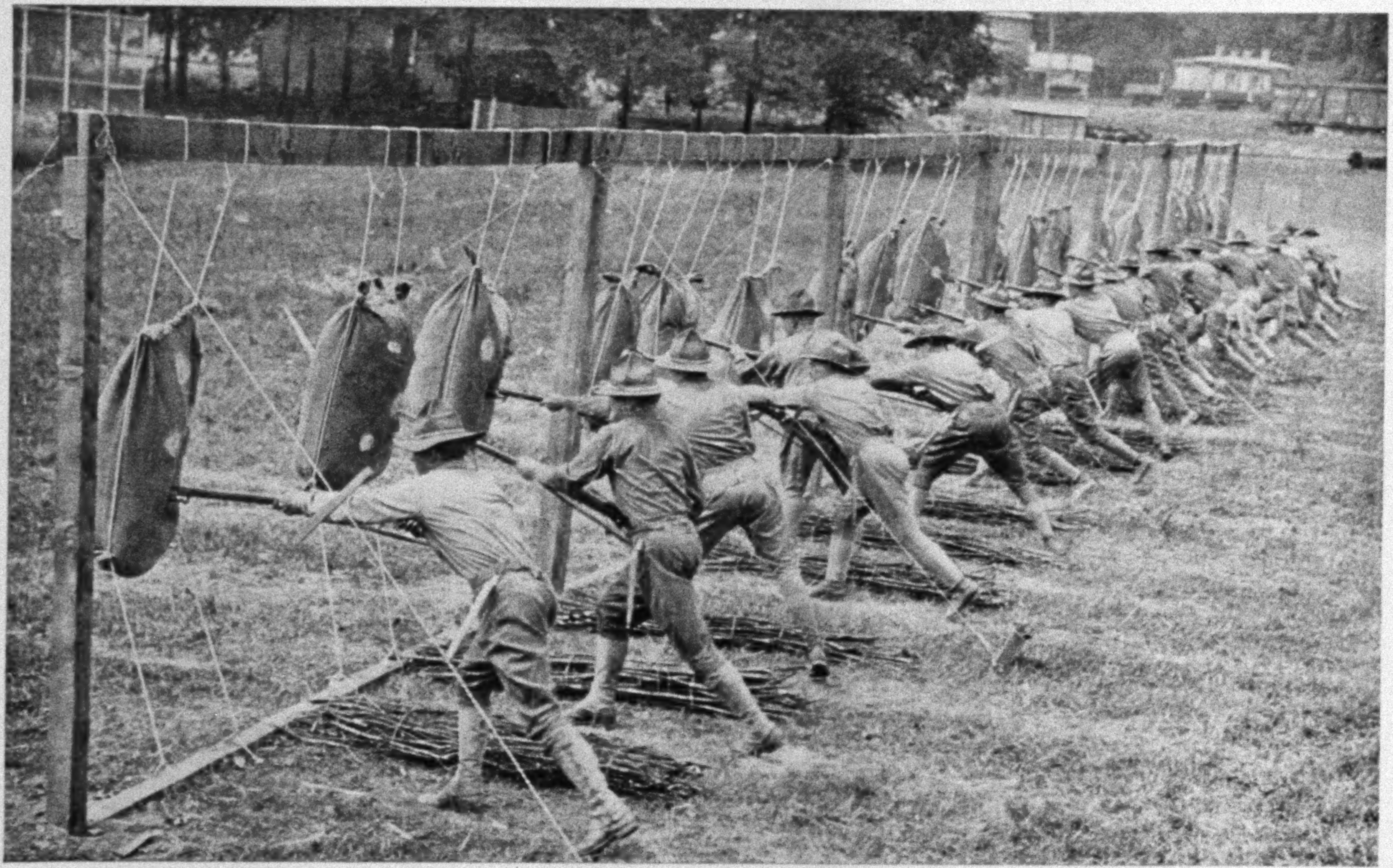
Camp Gordon, where the National Army forces from Georgia, Tennessee, and southeastern Alabama are being trained, is situated 9½ miles north of the heart of Atlanta, Ga., on the main line of the Southern Railway from Washington. In the extreme northwest part of the camp is Silver Lake, one of the most beautiful bodies of water in the South. At the gate of Camp Gordon are Oglethorpe University and Humphries Park.



Photograph by Paul Thompson

WALL SCALING: CAMP WADSWORTH

Many of our National Guardsmen saw active service on the Mexican border during the past year, and they were, therefore, far advanced in the schooling of warfare when the present great emergency arose. Upon entering camp they were qualified to take an intensive training course which was not possible in the National Army cantonments. Thousands of Guardsmen showed such rapid progress under the tutelage of their own officers and of experts loaned by our Allies that they have already entered the "post-graduate schools of war" in the training camps behind the French front lines.



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ADVANCED BAYONET DRILL BY STUDENT OFFICERS

Boxing is the sport most encouraged at the camps and cantonments because it is similar to the bayonet exercises, and a skillful boxer excels at this kind of drill. The men who are giving this spirited performance have had one month's training.

The capacity of this cantonment is 40,156. It disputes with Macon and Augusta for the honor of being the third city in Georgia. The soldiers quartered there will have very few winter rigors to undergo. While the mercury in the thermometer has occasionally fallen below the zero point, a really cold day is rare, and the average temperature for the year is 61 degrees Fahrenheit. Only 106 days in the year are sunless, while 111 of the sunny ones have no clouds on the horizon.

Atlanta, host to the Camp Gordon forces, is a young city. Accustomed to municipal history which is nearly always rooted in the colonial era, it seems strange for Easterners to think of Atlanta having no place on the map until its first inhabitant settled there in 1839. The village was originally called Terminus, from the fact that it was at the end of the Georgia Railroad, but in 1843 it was incorporated under the name of Marthasville, a designation it forsook in 1845, in favor of Atlanta. At the outbreak of the Civil War the erstwhile railhead settlement had a population of 15,000, and became a strategic point during that conflict. In 1864 it was the objective of General Sherman's offensive from Chattanooga. Capturing the city on September 2, he began his march to the sea on November 15th.

Camp Gordon was named for General John B. Gordon, one of the ablest officers of the Confederacy. His grandfather was one of seven brothers, all of whom fought in the Revolutionary War. When the Civil War began he was engaged in mining work in Alabama and was without military training. Organizing a company which called itself the "Raccoon Roughs," he became its captain, and rose through successive grades to a major generalship. He was made a brigadier for his distinguished conduct at Malvern Hill, Seven Pines, and Sharpsburg. He held the "farthest east" record of the Confederate forces, having, before the battle of Gettysburg, penetrated as far as Wrightsville, on the Susquehanna. After the war he was elected Governor of Georgia and also served in the U. S. Senate.

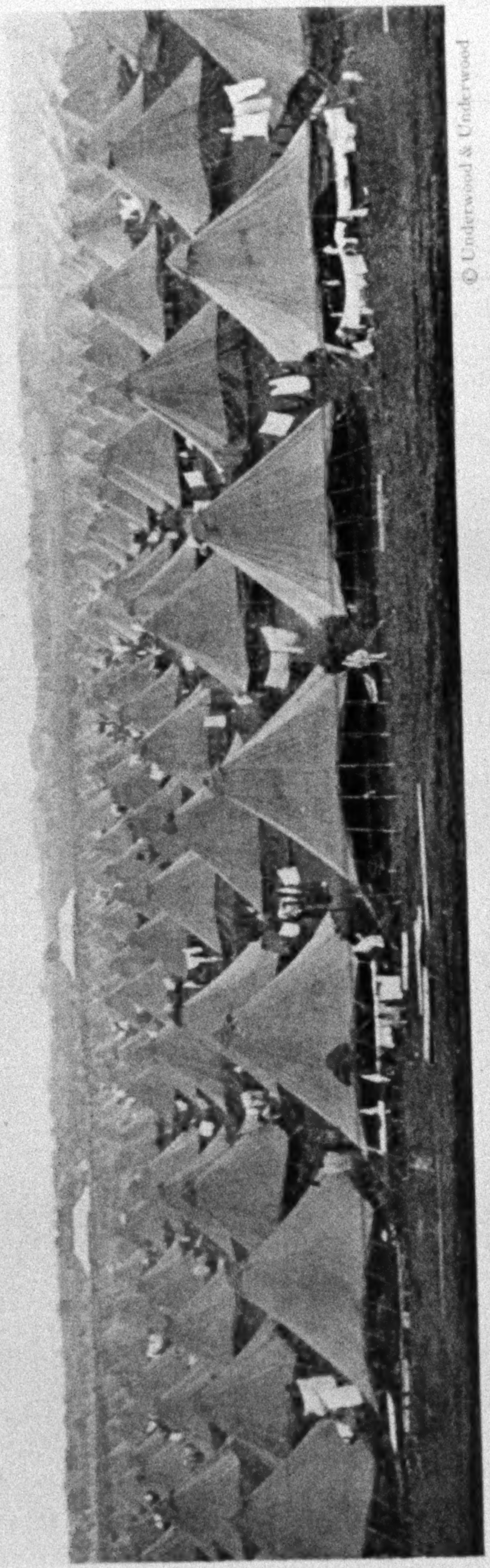
CAMP SHERMAN

Camp Sherman, built to shelter the National Army forces mustered into the Federal service from Ohio and a small section of western Pennsylvania, is located at Chillicothe, Ohio. Chillicothe is one of the big cross-roads of the State of Ohio. The Norfolk & Western and the Baltimore & Ohio main lines from Columbus to Norfolk and from St. Louis to Philadelphia, respectively, cross here. The Ohio & Erie Canal, which connects the waters of the Great Lakes with those of the Ohio River, passes by the city.

The camp is situated about three miles northwest of Chillicothe, in one of the finest farming belts of the Buckeye State. The 1,900-acre site is practically level, there being not more than 25 feet difference between the elevation of any two points in the whole area. The site parallels the Scioto River at a distance of about half a mile from its bank. The camp headquarters is located in an old southern Ohio mansion which stands in the big parade ground.

In the average year Chillicothe has 130 days in which the clouds hide the sun all day. There are about 100 days of sunshine and 135 partly cloudy. The average temperature is higher than that of most northern cantonments, being 53 degrees.

Camp Sherman was named in honor of General William Tecumseh Sherman, the hero of Chattanooga. His father died when he was nine years of age, and he was reared in the family of Thomas Ewing, whose daughter he married in later years. In 1856 he predicted the Civil War, saying that "unless people both North and South learn more moderation, we will see sights in the way of civil war." Resigning the superintendency of a military school in Louisiana when that State seceded, he returned to his home in the North and volunteered for service. By successive steps he rose from colonel to be a major general of volunteers. Later he was made a brigadier general in the Regular Army and given command of the Western forces by General Grant when the latter became Commander-in-chief. After the fall of Chattanooga he



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THE NEW YORK NATIONAL GUARD IN CAMP

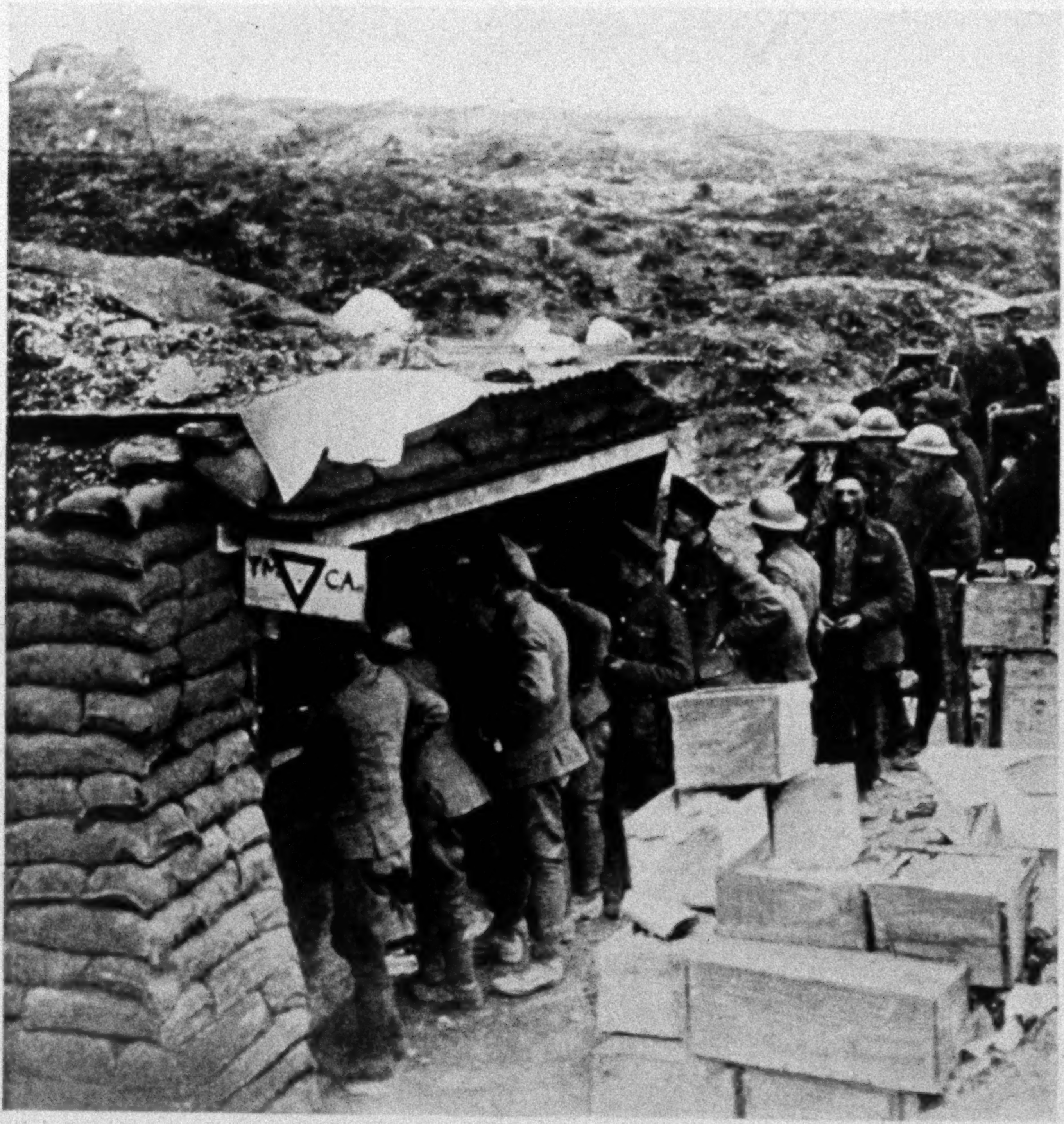
The quantities of canvas required for the National Guard camps and the Regular Army were as great a problem as the lumber and labor needs at the cantonments. Indeed, it was nearly decided that sufficient tenting material could not be secured and the National Guard camps would have to have buildings like those for the National Army. But, like the other problems, this one was met and solved and the canvas was produced. The "Rainbow Division" is tenting tonight—Over There.

invaded Georgia. Capturing Atlanta, he issued orders for all of its people to leave. The civil officials protested, which led to the oft-repeated saying ascribed to him, "War is hell." What he actually said was "You cannot qualify war in harsher terms than I will; war is cruelty and you cannot refine it."

CAMP TAYLOR

Camp Taylor, located beyond the city limits of Louisville, Ky., is the training camp for the divisions of the National Army which will come out of Kentucky, Indiana, and southern Illinois. No part of the camp is more than seven miles from the heart of the city, all of it except the maneuver grounds, indeed, lying close to the five-mile line from the center of the town. Its sewerage and water systems connect with those of Louisville and it gets its electric light from there. None of the camps has been laid out with more attention to ideals of city planning than Camp Taylor. There are some beautiful groves of trees and commanding knolls attract the eye. The average temperature at Camp Taylor is 57, with 107 as the highest summer heat on record and 21 below zero as the lowest winter cold. It has an average of 107 days of full sunshine and 118 of unbroken cloudiness a year.

Louisville illustrates the effect of geography on history. It is situated at the falls of the Ohio River. In the year 1778 General George Rogers Clark was



Photograph from Young Men's Christian Association

A YOUNG MEN'S CHRISTIAN ASSOCIATION HUT AT THE FRONT

According to the account of an English officer who has been there, when the young soldier, weary and muddy, first comes out of the trenches "he wants to go home to mother. Of course, he can't; so he goes to the Y. M. C. A. hut." This hut is a sand-bag dugout covered with turf, ten feet long and seven feet wide, with a roof high enough for men to stand upright in the middle. Planks laid on boxes form a counter, where cocoa and biscuits are served; there are writing and reading material and a talking machine. Shrapnel and shells sweep over this refuge constantly.

floating down the Ohio, his boats loaded with soldiers for the conquest of the Illinois country. When he came to the falls he concluded that what was afterward known as Corn Island, but which has since been washed away, would be an ideal cantonment site for the training of his raw recruits, since it was safe from Indian raids and desertion would be difficult. He brought some twenty emigrant families with him and built log cabins for them. After training his men he resumed his voyage down the river, leaving the emigrant families behind. They finally moved off the island and settled in a bend of the river on the Kentucky side and there founded the city of Louisville.

Fifty miles away is Hodgenville, where Abraham Lincoln was born. Within three

Photograph by Paul Thompson

A GLEE CLUB AND STRING BAND AT PLATTSBURG

Music plays a large part in building up that subtle essential to an army's success—morale. Song leaders are sent to the camps and cantonments by the War Department to teach the soldiers to sing, and the policy of camp commanders is to encourage singing at work, at play, on the march, and any time.

hours' ride is Mammoth Cave, the world's greatest caverns, which served America in her first war for liberty as the mines of Minnesota are serving her now, furnishing the saltpeter then unobtainable elsewhere, even as Minnesota furnishes the iron ore today.

Camp Taylor was named for Zachary Taylor, twelfth President of the United States and hero of Buena Vista, where he won a notable victory over Santa Anna, the Mexican leader, in 1847.

CAMP CUSTER

Situated in the environs of Battle Creek, famous for its breakfast foods and rest cures, Camp Custer, which is given over to the National Army forces from Michigan and eastern Wisconsin, is the smallest of the 16 cantonments. The Kalamazoo River runs past the camp site, and the barracks are ranged along the crest of a hill, shaped like a boomerang. At the end of the parade ground there is a beautiful flower garden, planted by the ladies of Battle Creek.

Although the camp is the smallest of the cantonments, it is a sizable place. Eleven hundred buildings, a half-million-dollar hospital, 20 miles of sewerage, 16 miles of water pipe, 8 artesian wells, with a combined flow of 4,000 gallons a minute, are not mean figures. The hospital, with its 59 buildings, is laid out around Eagle Lake, a beautiful sheet of water.

Some fifty miles from the shores of Lake Michigan, a hundred miles from Lake Erie, and about forty from the Indiana State line, Battle Creek has an ideal location as a mobilization center.

Battle Creek was not on the map before 1850, being incorporated as a village in that year; but as a junction point of the main lines of the Grand Trunk and the Michigan Central railroads, it soon began to flourish.

Camp Custer was named for General George A. Custer, who was killed in a battle with Sitting Bull and Crazy Horse, June 25, 1876.

CAMP GRANT

Located about five miles south of Rockford, Ill., to the east of Rock River, and connected with that city by a magnificent concrete highway, Camp Grant, which is the training quarters for the men who will constitute the divisions to be drawn from northern Illinois and all except the Lake Michigan shore counties of Wisconsin, is one of the most northerly of the 16 cantonments. It has more sunny days than any other of the 16 cantonments, with 274 cloudless or only partially cloudy ones annually.

Camp Grant is bounded on the west by the Rock River, and fronts the north bank of the beautiful little Kishwaukee River for a distance of half a mile. Rockford, with a population of 60,000, was so enthusiastic about having a cantonment near it that a fund of $100,000 was raised to improve conditions there. The Chamber of Commerce built some 400 residences on a tract outside of the cantonment to be used as homes for the officers. No city has shown a heartier hospitality to the new National Army forces than Rockford.

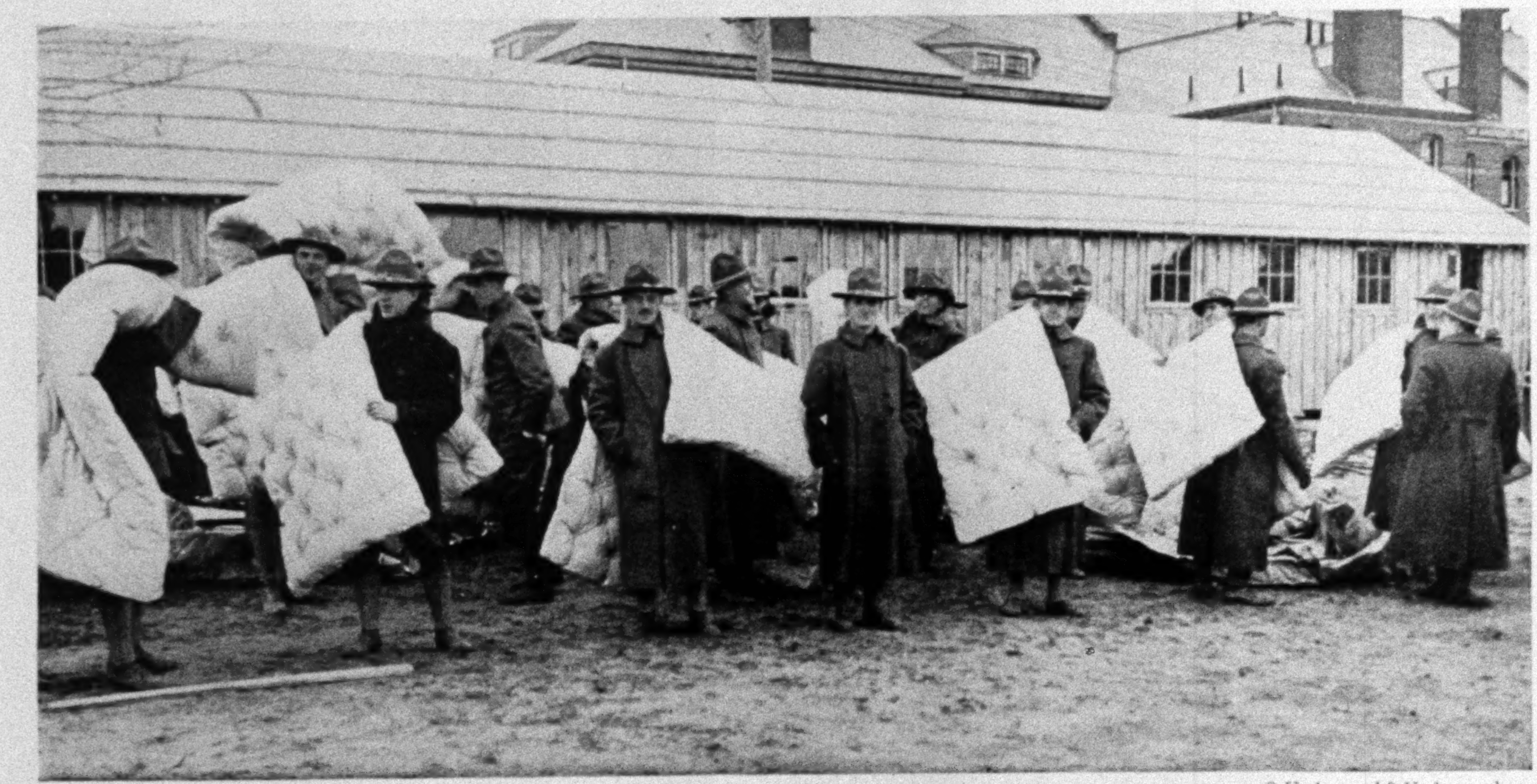
This cantonment was laid out with an eye to preserving the natural beauty of the site. A magnificent fringe of trees stretches along the banks of Rock River and has been preserved for park purposes. Some rare old farm houses have been utilized as officers' quarters.

A circle drawn around the camp at a distance of 80 miles will pass through Chicago and Milwaukee, cross the Mississippi at Dubuque and embrace an area in Iowa within the Big Bend of that river between Dubuque and Davenport. This territory embraces magnificent farming land and the great dairy region of which Elgin is the center and from which annually come hundreds of millions of pounds of golden butter.

Of course, everybody knows for whom this camp was named—Gen. Ulysses S. Grant, chief military hero of the Northern armies in the Civil War and afterward President of the United States.

CAMP PIKE

Camp Pike, situated eight miles northwest of Little Rock, Ark., houses the National Army forces drawn from Arkansas, Louisiana, Mississippi, and western Alabama. Here an up-to-date military city of 42,000 capacity had virtually



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MATTRESSES FOR THE STUDENT OFFICERS' BUNKS

This is a Plattsburg scene and the one-story building in the background is of the design originally proposed for the cantonments. It was wisely decided to adopt the more economical two-story barracks with larger windows. For the double-decker bunks used in the officers' training camps single cots have been substituted.

to be built in the midst of a wilderness. Ground was broken for the camp on July 9th. The site was almost entirely covered with second-growth timber, the nearest railroad was five miles away, and supplies had to be brought by truck from Little Rock over hilly highways. A vast deal of rock was encountered in ditching for water and sewer pipes—nearly 75 per cent of the total excavations, in fact.

Labor was scarce, as Camp Funston, in Kansas, had an earlier start and had secured most of the available supply. But the contractors ranged far and wide, even into the Mexican States of Chihuahua and San Luis Potosi, with the result that all handicaps were overcome. This camp has little level ground, resembling Camp Ayer and Camp Gordon in that respect, and many heavy grades in the road system result. The 75 hospital buildings cover 47 acres of ground.

Little Rock, which plays the rôle of host to Camp Pike, is the largest city in Arkansas. It was settled in 1814, becoming the seat of the territorial government in 1820, although at that time it had a population of only 20 people.

Situated on both banks of the Arkansas River, the city takes its name from the rocky promontory which rises to a height of some 50 feet above the river. It was called Little Rock in contradistinction to the bold precipice, some 3 miles above and about 500 feet high, which was known as Big Rock. To the west of the city and of Camp Pike the foothills of the Ozark Mountains rise, but to the east are fertile cotton fields and corn lands. The Arkansas River is navigable to boats of considerable draft as far as Little Rock, while steamboats of shallow draft go as far as Fort Smith, 165 miles to the west.

At the outbreak of the Civil War the State was hopelessly divided in sentiment. The upland people, living west of Little Rock, were Unionists and the cotton-territory folk, living east, were Secessionists. Camp Pike stands near the line of cleavage.

Camp Pike is named in honor of General Zebulon M. Pike, an American soldier and geographer. Born in Lamberton, N. J., in 1779, he spent his boyhood in Pennsylvania, and in 1805 started from St. Louis on an expedition to locate the source of the Mississippi. He was successful. Later he followed the Missouri and Osage rivers into Kansas, then went southward to the Arkansas, proceeding through Kansas and Colorado to the present site of Pueblo, and viewed Pikes Peak (since named in his honor). While searching for the Red River he lost his way and wandered into Mexican territory across the upper Rio Grande. He was arrested, taken to Chihuahua, and, after some delay, escorted back to the border. In the War of 1812 he led American forces into Canada and was killed at York by falling rock when the retreating force blew up a powder magazine. He died while his nomination for brigadier general was pending.

CAMP DODGE

Troops from four States are being trained at Camp Dodge, 11 miles north of Des Moines, Iowa. These troops include all of the National Army forces from Iowa, North Dakota, and Minnesota, and those from a middle belt of Illinois.

Military scenes are not new to the neighborhood of Camp Dodge, for the site embraces the Fort Dodge State rifle range and maneuver grounds of the Iowa National Guard in peace times. The camp lies on both sides of the Des Moines River and occupies an area of about 3,500 acres. Many other cities sought the cantonment, but Des Moines showed that it enjoyed 3,000 hours more of sunshine a year than any rival site. It has 259 days of all or part sunshine. Its average annual temperature is 48 degrees.

Des Moines is one of the great railroad centers of the Middle West. It is the capital of the State, and its name signifies "Of the Monks." Founded 71 years ago, it is now a city of 100,000 progressive citizens.

Camp Dodge was named for General Grenville M. Dodge, a civil engineer who helped to make the Platte Survey, one of the first railroad surveys toward the Pacific. He was an officer in the Civil War, rising to the rank of major general of volunteers. In 1864 he commanded the

Sixteenth Corps of General Sherman's army in the campaign which resulted in the fall of Atlanta. Later he was given command of the Department of the Missouri. He became chief engineer of the Union Pacific in 1867, and of the Texas and Pacific in 1871. He served a term in Congress, and in 1898 was appointed by President McKinley as chairman of a commission to investigate the charges of departmental mismanagement in the Spanish-American War.

CAMP FUNSTON

It devolves on Camp Funston, located at Fort Riley, Kansas, which stands at the confluence of the Republican and the Kansas rivers, to accommodate the National Army forces from seven States—Missouri, South Dakota, Nebraska, Kansas, Colorado, New Mexico, and Arizona. The men who will train at this camp may well feel that they are closer to the heart of the United States than any of the other military forces of the nation, for at Fort Riley stands the Ogden Monument, proclaiming the exact geographic center of the United States.

The military reservation on which Fort Riley stands, and on which Camp Funston was built, embraces nearly 20,000 acres. A military road connects Fort Riley with Fort Leavenworth, on the Missouri River, about 25 miles above Kansas City. This road was completed in 1854. Later it was extended westward to Bridgers Pass, between Nebraska and Utah. Fort Riley is the seat of the United States Cavalry and Field Artillery schools, which accounts for the big area embraced in the reservation.

Camp Funston can accommodate 41,000 people—a city as populous as the State capital. To the south of the camp runs the Kansas River and to the north are grass-covered hills. It would be difficult to imagine a more striking location for a camp. The fertile valley of Kansas' middle river sweeps eastward, and one gets the feeling of the boundless reaches of America as he surveys the scene from the green hills to the north. The county adjoining Riley on the east is Pottawattomie, home of John Brown. Sixty miles to the southeast is Emporia, where "What's the Matter with Kansas" had its birth.

Camp Funston is named for General Frederick Funston, who died only a few months ago at San Antonio, Texas. Born at New Carlisle, Clark County, Ohio, in 1865, the son of an artillery officer in the Civil War, his boyhood was spent on a Kansas farm. He was educated at the State university, became a reporter and then a special agent of the United States Department of Agriculture, where his work took him across Death Valley, into the heart of Alaska, down the Yukon alone in a canoe and up the 141st meridian to the Arctic Ocean. Later he traveled in Mexico, then went to Cuba, where he joined the cause of Cuba as a captain of artillery. While campaigning with Gomez and Garcia he was wounded, and, seeking to return to the United States, was captured by the Spaniards, who condemned him to be shot. Upon being released he returned to the United States. At the outbreak of the Spanish-American War he raised the 20th Kansas Volunteer Infantry Regiment. He was sent to the Philippines, where, on a small raft, he crossed a river under heavy fire and established a rope ferry that enabled the Federal forces to win an important victory at Calumpit. For this act of bravery he was awarded the Congressional Medal of Honor, and later organized the expedition that captured Aguinaldo. His more recent services, especially as commander of the American forces on the Rio Grande and as the head of the expedition to Vera Cruz, are well known.

CAMP TRAVIS

San Antonio has the unusual honor of having four military camps—Camp Travis, housing the National Army contingent from Oklahoma and Texas; Camp Wilson, housing contingents of Regular Army forces on the Mexican border; Fort Sam Houston, a Regular Army post; and Camp Kelly, an aviation camp.

The city's popularity with the army is deserved, as it has seasonable weather for military training every month in the year. Its average temperature is 68° and its lowest is 4° above zero. Furthermore, it

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THE SILHOUETTED SENTRY AS HIS EVENING VIGIL BEGINS

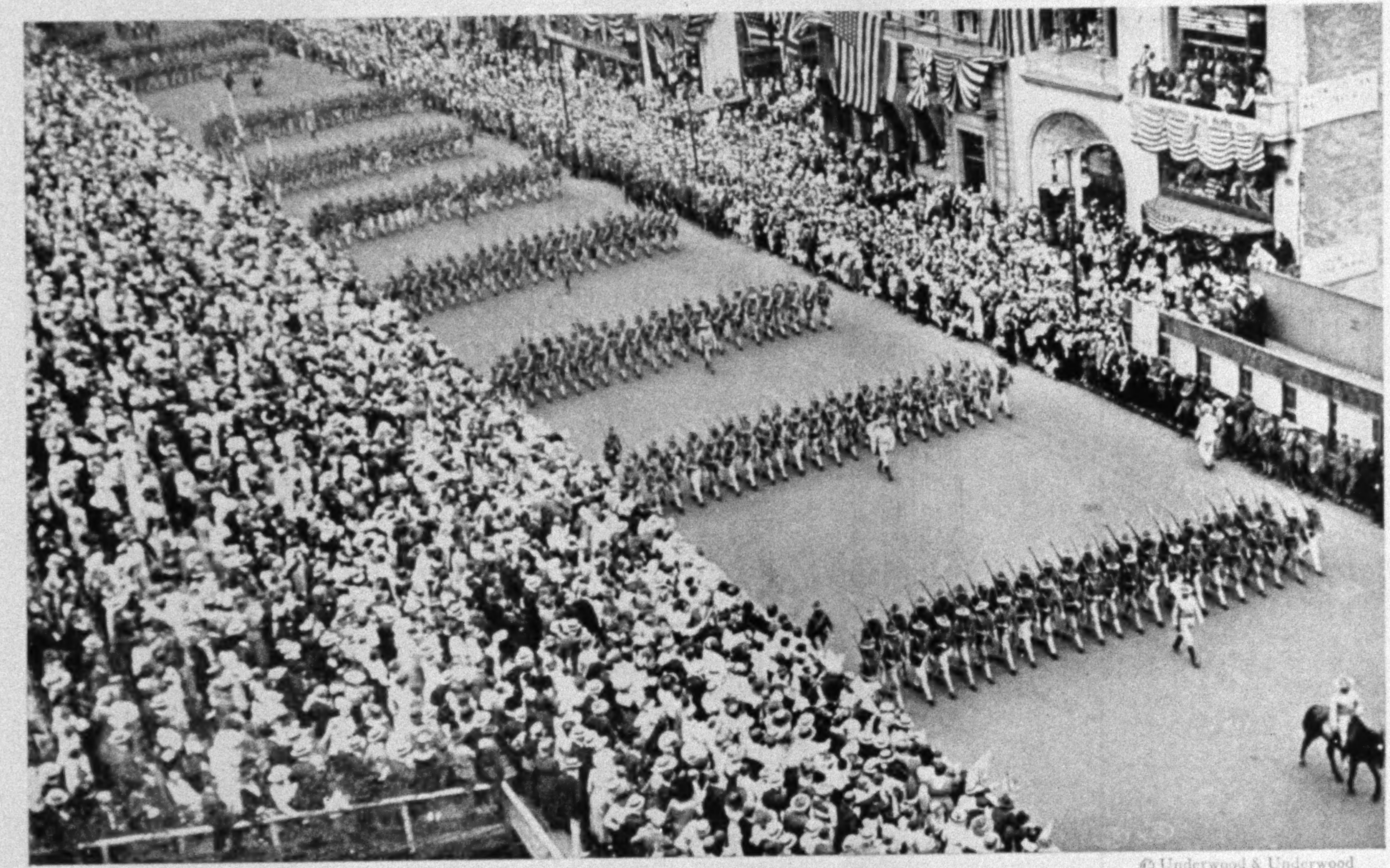
Back of him, in the gathering dusk, is seen a tiny segment of a vast tented city. As silently as the shades of evening fall, the spirit of resolution rises in every loyal heart that America shall never quit the fight until she knows that the fruitage of her warfare is lasting peace.

occupies a strategical position with reference to 2,000 miles of turbulent and somewhat unfriendly border. Camp Travis lies immediately to the east of Camp Wilson, along the Austin road. It adjoins Fort Sam Houston, which is second in importance among the military reservations in the United States.

The men at Camp Travis are training on historic soil. The city is the largest in the Lone Star State, situated about 140 miles inland from the Gulf of Mexico, at Rockport, and the same distance from the border city of Laredo, on the Rio Grande. The railroads centering there lead south to Laredo, southeast to the Gulf, west to Eagle Pass and El Paso, and northeast to the principal cities of the Mississippi Valley.

The city is a quaint combination of old Spanish and modern American architecture. It is beautifully laid out on a plateau over 600 feet above sea-level, a few miles below the wonderful chain of crystal springs from which the San Antonio River flows. Seventeen iron bridges span the river, which meanders for 13 miles through the city. The public plazas, with their subtropical trees, their chile concarne and hot tamale stands, and

XUM



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A "SEND-OFF" FOR NEW YORK NATIONAL GUARDSMEN

It is as difficult to discover the characteristic gray decorum of Fifth Avenue in this thrilling spectacle as it is to find the man who used to wish, in the unenlightened days of 1914, that "people wouldn't talk so much about the war!"

their debouching streets with liquid Castilian names, make one think of Monterey and Chihuahua, which were, before the passing of the Diaz régime, about as much American as San Antonio is Spanish.

The city was born of the fierce rivalry between France and Spain for the possession of the rolling prairies of Texas. Both sent expeditions of exploration to this region. The Spaniards established missions and held the territory.

When Texas revolted against Santa Anna, in 1835, the city was taken by the Texans, whose garrison included William B. Travis and "Davy" Crockett. The city fell and Travis and his command, numbering 179, fortified themselves in the Alamo, with their rifles and 14 cannons. The siege lasted 10 days, with 6,000 troops against the devoted 179. When the place was finally captured every defender left alive was butchered, but they had accounted for a casualty list of 1,600 among the Mexicans. In 1842 the Spaniards took the city a second time and marched off its most prominent citizens to dungeons in Perote Castle, State of Vera Cruz. A few days later it was retaken by Hays and Caldwell, never to fall into Mexican hands again.

Col. William B. Travis, for whom Camp Travis is named, was born in Edgefield County, South Carolina, in 1811. He studied law, moved to Alabama, then to Texas. He became a colonel in the Texas army in 1832, was captured by the Mexicans, and released. How gallantly Colonel Travis, at the age of 25 years, conducted his defense of the Alamo is a story which has fired the imagination of American school boys for three-quarters of a century.

CAMP LEWIS

The biggest cantonment, both in capacity and in the number of States whose troops it will house, is Camp Lewis, 17½ miles south of Tacoma, Washington, at Dupont, on the Northern Pacific Railway, and on the splendid Pacific highway. It has quarters for 47,650 officers and men and stables for 15,000 horses. It will be the training school of all the National Army forces drawn from the eight States of Montana, Wyoming, Idaho, Washington, Oregon, California, Nevada, and Utah.

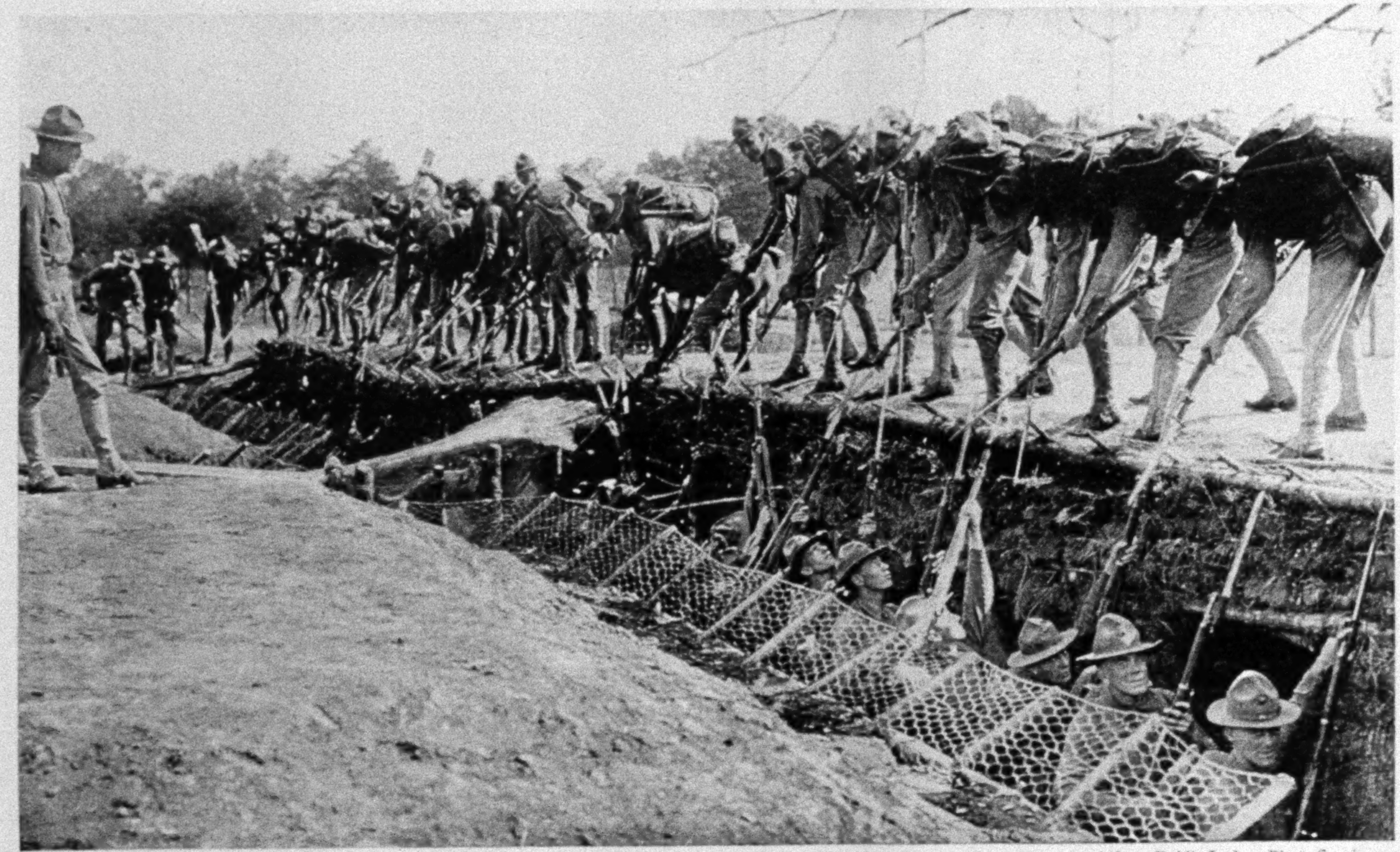
This site has long been regarded as the finest military training ground west of the Rocky Mountains. It has more entirely clouded days than any other cantonment site, yet it enjoys the most equable climate of the 16. Even Camp Travis, in a latitude 1,200 miles farther south, sometimes shows a winter thermometer only 4 degrees above zero, while the low mercury mark for Camp Lewis is 9 degrees above. The warm winds of the Japan current make the climate of this region so equable that Washington has been given the sobriquet of the Evergreen State.

Within a few miles of the camp site every kind of obstacle that nature opposes to soldiers may be found. The low ranges of the Cascades are hard by; Mt. Rainier is not far away. The soldiers, therefore, may practice on any kind of terrain, from Alpine heights to level savannas.

Camp Lewis is situated in the great Puget Sound Basin, between the coast and Cascade ranges of mountains. In its highest parts this basin scarcely rises more than 500 feet above sea-level, and for more than half of its length is penetrated by the southern arms of Puget Sound—a body of water which forms one of the finest systems of harbors in the world.

Camp Lewis was named for Captain Meriwether Lewis, one of the leaders of the famous Lewis and Clark Expedition, through which the American people gained their first knowledge of the great Northwest. Lewis was born near Charlottesville, Va., in 1774. He enlisted in the forces sent to put down the Whiskey Rebellion in 1794, entered the Regular Army as a lieutenant in 1795, became a captain in 1797, and Thomas Jefferson's private secretary in 1801.

While President, Jefferson sent a confidential message to Congress asking an appropriation for an expedition to plant the American flag on the territory from the Mississippi to Puget Sound. After the appropriation was in hand he appointed Captain Lewis and Captain Clark



Photograph from Public Ledger Photo Service

MARINES AT BAYONET PRACTICE: QUANTICO, VIRGINIA

No sturdier lot of men ever handled bayoneted guns than the men who constitute what, before the advent of aërial warfare, might have been called the flying squadron of Uncle Sam's regular fighting forces for over-sea service. They have been trained to serve as the vanguard of any force that must land on contested ground, and are now ready for landing operations wherever the Allied fleets may open the way.

to lead the expedition. They started up the Missouri in the spring of 1804, following that river to its source, and then struck down the Columbia River to the Pacific. They returned by the same general route, exploring many adjacent valleys on the way. Captain Lewis was afterward appointed Governor of the Territory of Louisiana.

THE NATIONAL GUARD CAMPS

CAMP GREENE

Camp Greene, training ground for the National Guard of the New England States, lies partly within the city limits of Charlotte, N. C. The elevation here is about 720 feet, with an average temperature of 60°. The record high temperature is 102°, and —5° is the mercury's lowest mark.

Charlotte is on the Piedmont and Northern, the Southern, the Norfolk Southern, and the Seaboard Air Line railroads. It is situated in the gold-mining region of the State, has many cotton mills, clothing and other manufactories. Electric power is cheap here. The population is about 35,000.

Charlotte was settled about 1750, and became a county seat just before the war for independence. The Mecklenburg Declaration of Independence, which is held to have anticipated the Jeffersonian document, was signed here in May, 1775.

Camp Greene is named for a New England hero of the American Revolution—Nathanael Greene, of Rhode Island. He was trained as a Quaker, but was one of the first to take part in military preparations of the Colonies.

So extraordinary were the conditions under which the American Army was organized, that Nathanael Greene went under fire for the first time as a major general. His most noteworthy service to the American cause was rendered after he took command of the Army of the South, in October, 1780. There he gained his ends more often by retreats and losing battles than by victory, and won a medal of honor from Congress, a tribute from his Commander-in-Chief to the "peculiar abilities of General Greene," and the acknowledgment by his distinguished opponent, Cornwallis, that he was "as dangerous as Washington—vigilant, enterprising, and full of resource."

CAMP WADSWORTH

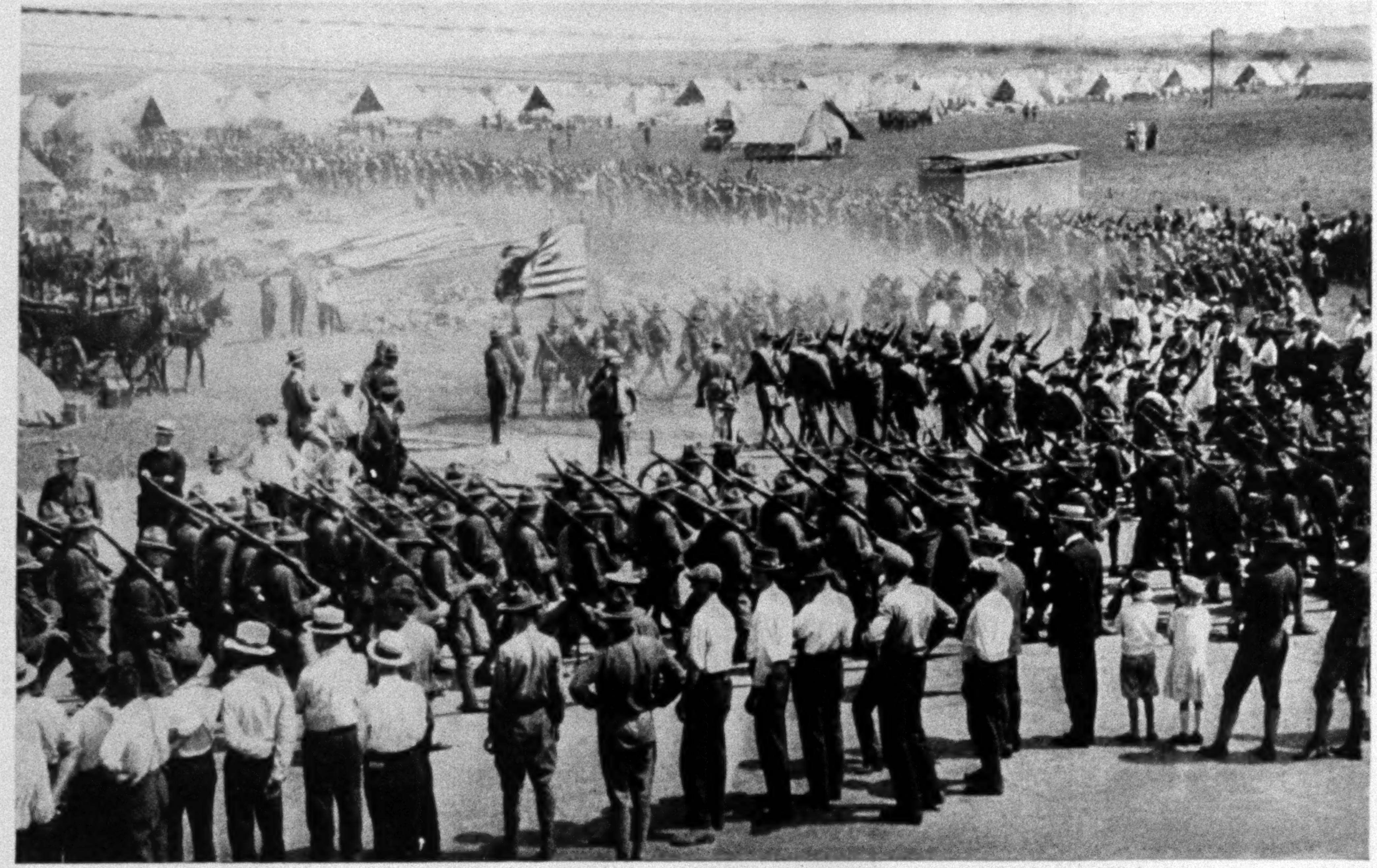
The former National Guardsmen of the Empire State are being trained at Camp Wadsworth, about six miles southwest of Spartanburg, S. C. One extremity of the site lies at Fair Forest, a station on the line of the Southern Railway to Atlanta, and the national highway, which passes through Spartanburg, runs close to the camp. This region has an average annual temperature of 61°, with —4° as the average lowest temperature and 104° as the average highest. The elevation is about 875 feet. This location averages less sunshine than any other camp site, with 164 days clear or partly cloudy each year. It is the center of a cotton manufacturing district. About ten miles away is Cowpens, one of the important battlefields of the Revolution.

In October, 1917, Camp Wadsworth was the largest of the National Guard cities. Its population was more than one and a half times as large as Spartanburg, and Charleston was the only city in the State which housed more inhabitants.

Camp Wadsworth is named for J. S. Wadsworth, a New Yorker and a gallant soldier of the Civil War. From March to December, 1862, he was military governor of Washington, D. C., and was defeated during the same year in the campaign for governor of New York. He played a conspicuous part in the battles of Fredericksburg, Chancellorsville, and Gettysburg. On May 6, 1864, while leading a division in the battle of the Wilderness, he received a mortal wound and died two days later. He was brevetted a major general of volunteers for heroism in this battle.

CAMP SEVIER

The federalized National Guardsmen from Tennessee, North Carolina, and South Carolina are being trained at one of the most delightful camps in the South. The maneuver grounds and the site of Camp Sevier occupy about 2,000 acres where were, until recently, dense woods of oak and pine and fields of corn and



Photograph by Central News Photo Service

THE ADVANCE GUARD OF THE RAINBOW DIVISION GOING INTO CAMP

The former National Guardsmen who are shown here arriving at a tent city on Long Island for a period of training, composed the first unit of the "Rainbow Division." Hearts at home were gladdened recently by the news of their safe arrival in France.

cotton, about six miles northeast of Greenville, S. C. The country is rolling, and the camp boasts pure air, pure water, and no mosquitoes. The main line of the Southern Railway to Washington divides the camp proper from the maneuver grounds. Paris station is located just at the boundary of the encampment. The maneuver field is crossed lengthwise by a stream of considerable size.

This region has sunshine on 254 days of the average year. Its annual mean temperature is 58°, and —5° is the record low temperature. The cool mountain air tempers the summer heat, which seldom goes above 97°.

Greenville, the nearest town and the county seat, was settled in the year of the Declaration of Independence and incorporated in 1831. It is of considerable industrial importance and is noted as an educational center, with four colleges. Four railroads run into Greenville, connecting it directly with Knoxville, Columbia, Charleston, Atlanta, and Washington.

Col. John Sevier, for whom this camp is named, became famous as an Indian fighter, and was made a brigadier general under Marion in 1781. He proclaimed himself governor of the "State of Franklin," in the territory which is now Tennessee, when North Carolina wished to cede those western lands to Congress. The "State of Franklin" collapsed, but Sevier's conduct did not prevent his becoming later a member of the North Carolina Senate, and still later (1790), representing that State in Congress. He enjoyed the unusual distinction of having been sent to Congress at different times by two States, for he represented Tennessee from 1811 to 1815, having previously served in that State's Senate and for three terms as Governor.

CAMP HANCOCK

Camp Hancock, the National Guard home for Pennsylvania troops, adjoins the southwest city limits of Augusta, Ga., and comprises 2,000 acres, on which are 800 permanent buildings. The Georgia Railroad to Atlanta runs along the southern border of the site and connects with the Southern Railway's union station in the city. A lake formed by the south fork of Rae Creek lies at the northwestern extremity of the camp.

Augusta's climate has all the charms of the Sunny South. Two hundred and sixty-seven days of the average year are clear or only partly cloudy; the lowest winter temperature is three degrees above zero, the maximum in summer is 105°, and the mean temperature is 64°. The city is one of the most popular inland winter resorts in the United States.

Augusta was founded in 1735 by the English philanthropist and soldier, James Edward Oglethorpe, to whom the colony of Georgia was granted by George II. For nine years Oglethorpe labored to establish in this wilderness a colony which would remedy the evil of debtors' prisons in England. He was the guiding spirit in the administration of the colony and its defender against the hostile tide of Spanish colonists and Indians on the south. Financial obligations incurred in promoting the colony compelled his return to England, but he retained his interest in American affairs and was one of the earliest to assure the first ambassador of the independent United States to England of his regard for the new nation and his satisfaction that the difficulties between it and Great Britain were at an end.

The city stands at the head of navigation on the Savannah River, making possible an all-water connection with eastern markets. Nine railroads give it further commercial advantages. It has many industries, among which cotton manufacture predominates, giving the city the name "the Lowell of the South."

Winfield Scott Hancock, for whom this camp is named, ranks high on the roll of American soldiers. A West Point graduate, he earned a first lieutenancy in the Mexican War. Commissioned a brigadier general of volunteers at the beginning of the Civil War, he rose to the rank of major general in the Regular Army during that conflict. At Williamsburg his conduct was mentioned by General McClellan as "superb." Hancock's Division is credited with having saved the Federal forces from a rout at Chancellorsville. He was wounded at Gettysburg, where he won distinction for his judgment and tactical skill, qualities which were sternly required for the part he later played in the Wilderness campaign. He saw more service during the Reconstruction days, and was the unsuccessful candidate for the Presidency against Garfield. A Pennsylvanian by birth, he is appropriately honored in this camp for Pennsylvania's soldiers.

CAMP WHEELER

Camp Wheeler lies seven miles southeast of Macon, Ga. Here the National Guard troops of Alabama, Florida, and Georgia are in training. The Macon, Dublin and Savannah Railroad crosses the camp and connects with the Southern Terminal in Macon.

Macon is the center of an extensive cotton trade and has steamboat connection with Brunswick and Savannah.

The climate is generally mild and pleasant, with an average annual temperature of 63°. The record high temperature is 104°, while winter rigors may hardly be said to exist, the lowest mark of the mercury being 10°. The elevation is between 300 and 400 feet. In the average year about 246 days are clear or only partly cloudy.

General Joseph E. Wheeler, for whom this camp is named, was born at Augusta, Ga. A West Point graduate of 1859, he became one of the ablest cavalry leaders of the Confederate army, and rose to the rank of lieutenant general. After the war he served for 19 years in Congress, then, returning to the army, commanded a U. S. cavalry division in the Spanish-American War. After two years more of service, commanding a brigade in the Philippines, he was commissioned a brigadier general and retired in 1900. He died in 1906 and was buried at Arlington.

CAMP MC CLELLAN

Five miles from Anniston, Ala., is located Camp McClellan, the encampment for the National Guardsmen of New Jersey, Virginia, Delaware, Maryland, and the District of Columbia. A great expanse of maneuver grounds extends north and east from the encampment.

The advantages of this location for military operations were recognized several years ago, and the National Guard of eight Southern States held their field maneuvers here in 1912. Camp and town are surrounded by the foothills of the Blue Ridge.

The record high temperature is 103° and the annual average 61°. The lowest record of the mercury is 9° above zero. The sun shines on 208 days of the average year.

Anniston was founded in 1873 by the Woodstock Iron Company, and for ten years existed merely as a part of that company's business.

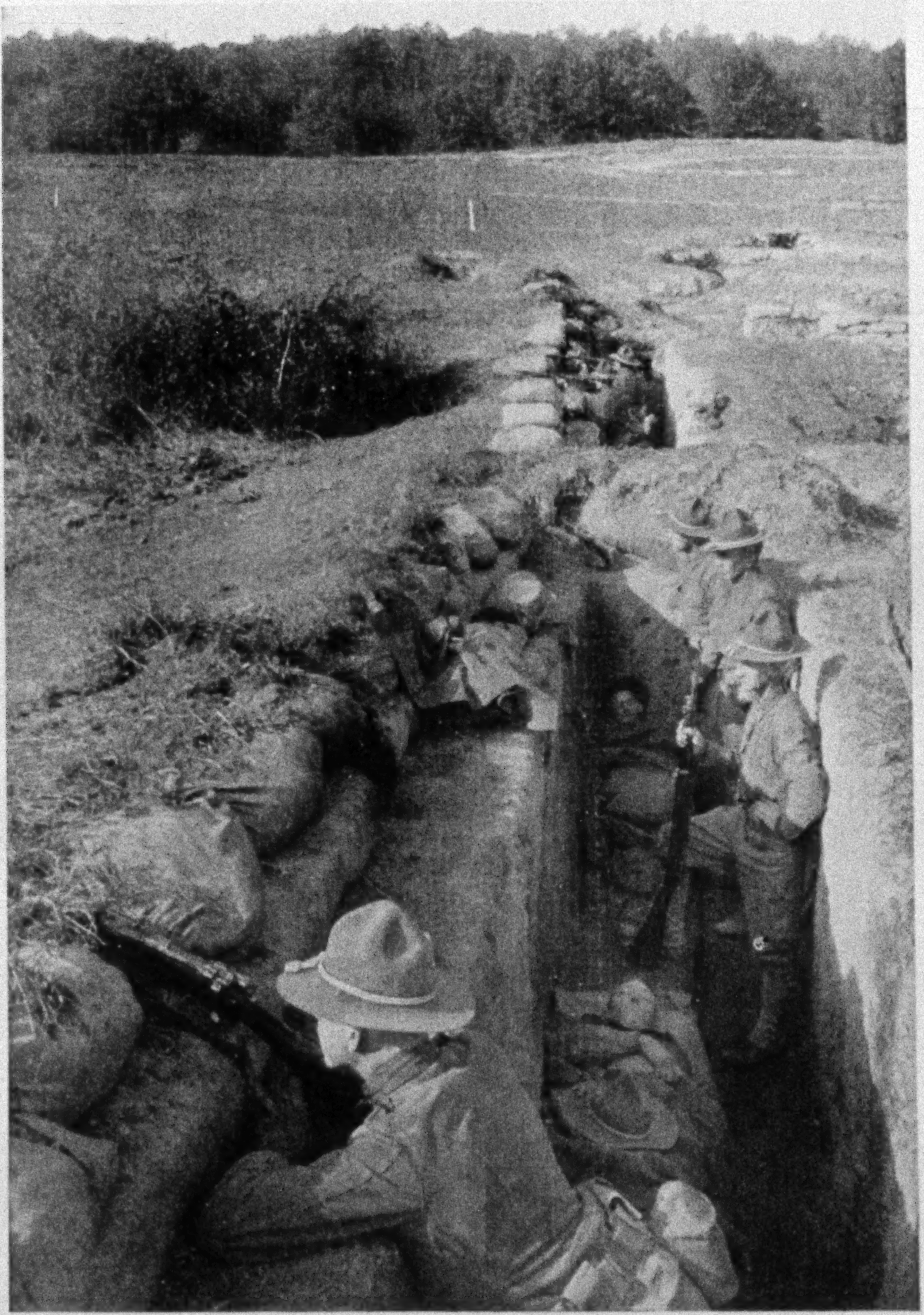
This camp bears a name that is conspicuous in the military annals of the United States. Major General George B. McClellan was a West Point graduate of 1846. In the Mexican War he was brevetted first lieutenant and later captain for gallantry. Between the Mexican and the Civil War he was one of three officers commissioned as military observers in the Crimea, and then leaving the army he became first an official of the Illinois Central and afterward president of the St. Louis and Cincinnati Railroad. At the outbreak of the Civil War he was appointed major general of volunteers and made a successful campaign in West Virginia. After the first battle of Bull Run he was placed in command of the Army of the Potomac, having been commissioned a major general in the Regular Army, and in November, 1861, he became commander of the Army of the United States. In the presidential election of 1864, McClellan was Lincoln's opponent, and was defeated by a popular majority of about 400,000. Thereafter he was occupied chiefly with engineering enterprises and served one term as Governor of New Jersey, declining renomination.

CAMP SHERIDAN

Camp Sheridan, occupied by troops of the National Guard of Ohio and West Virginia, lies north of the city limits of Montgomery, Ala.

The sun shines in Montgomery about 260 days a year. The average annual temperature is 65°, with 107° as the greatest summer heat and 5° above zero as the record in low temperature.

The hostess city of this encampment is



Photograph by Earle Harrison

TRENCH WARFARE AT A TRAINING CAMP

The men spend a day and a night in these training trenches, eating and sleeping there. The object is to reproduce faithfully the conditions on the French front, and although the realism is not carried to the point of supplying shot and shell, rats and mud, no one can complain that this preparation for the actual battle-line is too theoretical.

also the State capital. It is situated at the head of navigation of the Alabama, and built for the most part on the high bluff above the river. With its many fine old-fashioned residences and beautiful gardens, Montgomery retains some of the leisurely charm of plantation days, but in other respects it is typical of the new South. It is a great inland cotton market, and has a fortunate location with regard to timber and deposits of iron and coal. Its manufacturing interests are important.

No State was more zealous in the Secession movement than Alabama, and it was from Montgomery that the telegraphic order to fire on Fort Sumter was despatched. The Confederate Government was inaugurated by Jefferson Davis in the State House here, on February 18, 1861. Today this "Cradle of the Confederacy" is welcoming the sons of two Northern States who are to be defenders of the honor and ideals of North and South alike.

Camp Sheridan is named for General Philip Henry Sheridan, whose brilliant part in the Civil War is familiar to every American.

CAMP SHELBY

Camp Shelby, where the National Guardsmen of Indiana and Kentucky are encamped, is located about ten and a half miles southeast of Hattiesburg, Miss., with its 15,000 inhabitants. The camp site was heavily wooded. About 180,000 stumps had to be blown out in the course of construction. The camp is oblong in shape and comprises something more than three square miles, with a target range one mile square adjoining it on the east. The Leaf River flows southeast from Hattiesburg and the tributary Jacobs Creek enters the camp grounds.

The average temperature for the year, in this region, is 67°, with 103° as the greatest summer heat. One degree below zero stands as the extreme record in low temperatures. Although only 226 days a year are clear or only partly cloudy, a smaller total than in most of the southeastern camps, 177 days are cloudless.

This camp is named for a Revolutionary soldier, Colonel Isaac Shelby. A native of Maryland, at the age of 24 he became a lieutenant under his father's command. By 1777 he had risen to the rank of colonel; he played a distinguished part in the battle of King's Mountain and served in the Southern campaign under Greene. He was a member of the Virginia House of Delegates in 1778 and later a member of the North Carolina egislature. He was a member of the Constitutional Convention, and in 1792 Governor of Kentucky, after playing an important part in bringing that State into an existence separate from Virginia. As governor he served two terms, and then, in a crisis of the War of 1812, returned to military service and went to the relief of General Harrison in Canada, with 4,000 Kentucky volunteers. He received a medal from Congress for his services in the battle of the Thames. His name and fame are commemorated in the South and West, where there are nine Shelby counties.

CAMP BEAUREGARD

Louisiana, Mississippi, and Arkansas National Guard forces are spending their preparation period at Camp Beauregard, adjacent to Alexandria, La. Camp Beauregard is located in the heart of the long-leaf pine district, with forests stretching in every direction for some 75 miles. In the immediate vicinity of the city, to the north of the Red River, are cotton, sugar, and alfalfa fields, while south of the river there are rich farming districts.

Alexandria has a war history of interest. In the spring of 1863 Admiral Porter, with a fleet of river boats, coöperated with General Banks in driving the Confederates westward. In 1864 the town was again occupied by Union troops, as a concentration camp for the land and water forces to be sent against General Kirby Smith at Shreveport. The gunboats passed up the river toward Shreveport while high water prevailed, but were caught above the falls at Alexandria and would have been lost but for the timely work of Lieut. Col. Joseph Bailey, who constructed a dam which saved them.

Camp Beauregard was named for General P. G. T. Beauregard, of the Confederate Army. Born in New Orleans in in 1818, he was graduated from West Point in 1838. In the fall of 1860 he was appointed superintendent of the United States Military Academy at West Point, a position he resigned to enter the Confederate Army. He began the Civil War by his bombardment of Fort Sumter. He was second in rank at the first battle of Bull Run, and at Shiloh succeeded Albert Sidney Johnston when the latter fell. He was with Lee at Petersburg, and later went West, surrendering with Joseph E. Johnston. After the war he was offered first the command of the Roumanian armies and later of the Egyptian forces under the Khedive of Egypt, but declined both offers. He died in 1893.

CAMP LOGAN

Five miles west of Houston, Tex., is the Illinois Guardsmen's Camp Logan.

This location has the highest average annual temperature of any National Guard encampment, 69°, the mercury's highest record being 102° and the lowest 15° above zero. The sun shines here about 256 days a year, of which 120 days are partly cloudy.

Houston is a city of 94,000 inhabitants. It is a railroad center of importance and has direct water communication with the Gulf at Galveston, about 50 miles to the southeast, by way of the Houston Ship Channel. The city is a prosperous distributing market for cotton and lumber, and exports cotton-seed oil, rice, and sugar in large quantities.

The city is named for Sam Houston, soldier and leader in the early history of Texas, second president of that Republic, and later governor and senator from the State. It was founded in the year of Texas' independence, 1836, and was the capital of the Republic in 1837-39 and 1842

Camp Logan commemorates an Illinois military leader. John Alexander Logan was a member of Congress at the outbreak of the Civil War and resigned his seat to enter the army as colonel of the 31st Illinois Volunteers. He distinguished himself in the Vicksburg campaign as a division commander, and was the military governor of the city after its capture. After the war he was again elected to Congress, serving one term in the House and two in the Senate. He was the Republican vice-presidential candidate on the ticket with James G. Blaine, and was reelected to the Senate by Illinois after the Democratic presidential victory.

CAMP MAC ARTHUR

Camp MacArthur, northeast of the city limits of Waco, Tex., is the training ground for the guardsmen of Michigan and Wisconsin. Waco is a city of about 33,000 inhabitants and is situated on both sides of the Brazos River. Artesian wells supply waters of widely known medicinal properties.

Texas climate offers a rather wide range of temperature, the highest record at Waco being 109° and the lowest 5°. The annual average is 67°.

Camp MacArthur bears the name of a distinguished general, Arthur MacArthur, a native of Massachusetts. His military service began in 1862, and during the Civil War he attained the rank of lieutenant-colonel of volunteers, and was awarded a Congressional medal of honor for gallantry in the battle of Missionary Ridge. Following the close of the war he entered the Regular Army and saw service in Cuba and in the Philippines, holding the position of governor of the Islands and commander of the Division of the Philippines. Upon his return to the United States he became assistant Chief of Staff, and was in command at different times of the departments of Colorado, of the Lakes, of the East, and of the Division of the Pacific.

CAMP BOWIE

The National Guard forces of Texas and Oklahoma were mobilized and are being trained at Camp Bowie, near Fort Worth, Tex., in the northeastern section of the State. It is in the center of a vast stock-raising and agricultural region and is one of the leading meat-packing towns of America. Having 11 trunk-line railroads, with 16 outlets, Fort Worth is the great distributing point of the Southwest. The city was merely a frontier post in 1849, and in 1873 had only 1,100 population. Today it is a busy metropolis, with more than 75,000 inhabitants.

Photograph by Edwin R. Jackson

FLAG-MAKERS

They are the flag-makers of the future, for the flag represents just the character and ideals of American citizens. The care and development of the children's minds and bodies must not be neglected in the stress of war. It is the one portion of our national affairs to which the motto, "Business as usual," can be safely applied.

Camp Bowie was named for James Bowie, by courtesy a "colonel," who was born in Georgia and died in Texas. He took part in the Texas Revolution and fell at the Alamo. The bowie knife gets its name from this intrepid frontiersman. In an encounter with some Mexicans he broke his sword to within 20 inches of the hilt, but found that upon sharpening the point he was able to do such execution in hand-to-hand combat that he equipped all of his followers with a similar weapon, since known as the bowie knife.

CAMP DONIPHAN

Situated near the town of Lawton, Kans., in the county of Comanche, on the Fort Sill Military Reservation, Camp Doniphan is the place of training for the National Guard forces of Kansas and Missouri. Here also is located a field artillery training school for the Regular Army. In 1901 Lawton, as a part of the Comanche Indian Reservation, was opened for settlement. By the day set for the opening 25,000 people were encamped near the vacant town site, forming a tent frontage eight miles long. The lands released at that time were larger than the State of Connecticut and within three months had a population of 50,000.

Camp Doniphan was named for Col. Alexander William Doniphan, of the First Missouri Cavalry. He was born in Kentucky in 1808 and died in Missouri in 1887. During the Mexican War he led an expedition across the Rio Grande, and was marching in the direction of Chihuahua when he was attacked unexpectedly by 4,000 Mexicans. Although greatly outnumbered, he routed the attacking forces and captured Chihuahua. Before the outbreak of the Civil War, Colonel Doniphan was one of the commissioners to a peace convention which met at Washington and sought unsuccessfully to find a basis of compromise upon which both sides could unite and thus avert the then impending military struggle.

CAMP CODY

At Camp Cody, New Mexico, troops from North and South Dakota, Iowa, Nebraska, and Minnesota are being trained. The camp is situated partly inside the limits of the little plains city of Deming, less than 40 miles from the Mexican border. The site offers an expanse of flat country between a branch of the Southern Pacific Railway and the Santa Fe. A plentiful supply of pure water is raised from wells by electric pumps.

Deming has 255 cloudless days a year and sunshine on 308 days; it averages more sunshine than any other camp site. The elevation here is about 4,300 feet. Fifty-nine degrees is the annual mean temperature, with 110° as the highest record of the mercury and 9° above zero as the lowest. The city is a health resort and the trade center of a mining and cattle-raising district. The award of the camp site necessitated the moving of railroad stock yards for sanitary reasons.

This camp was named in honor of William F. Cody, last of the great American scouts, whose fame justly ranks with that of Daniel Boone, Davy Crockett, and Kit Carson.

CAMP KEARNY

Camp Kearny, 15 miles north of San Diego, Cal., where the National Guardsmen of California, Nevada, Utah, Colorado, New Mexico, and Arizona are stationed, is in a country which has some of the aspects of southern France—the gray olive orchards, the mulberry trees of the silk-growers, sparkling blue sea, and golden sunshine.

Nature has lavished beauty, fertility, and an almost perfect climate upon this region. The coldest month has an average temperature of 54° and the warmest month averages about 70°.

Between San Diego and the camp site is the old Mission of San Diego, the first settlement of white men in California, dating from 1769. Pacific Beach and Coronado Beach offer the pleasures of the seashore, combined with semi-tropical gardens of brilliant color and beauty and modern hotels and comforts.

The harbor of San Diego is one of the finest in the world. Acres of parks and gardens add to the natural beauty of its situation. Commercially it profits by several railroads and steamship lines. Its present population of about 51,000 is almost triple that of 1900.

Camp Kearny was named for General Stephen W. Kearny, a lieutenant in the War of 1812 and a prominent figure in the Mexican War. In 1846 he became a brigadier general and was given command of the Army of the West, with which he conquered New Mexico. He then entered California, with instructions from the Secretary of War to set up a civil government. Later he was ordered to Mexico, in 1848 was appointed Governor of Vera Cruz, and subsequently of Mexico City, where he contracted a fever from which he died after his return to the States.

CAMP FRÉMONT

Camp Frémont is situated at Menlo Park, 33 miles from San Francisco, on the Southern Pacific Railway's coast line. It was intended for the use of National Guardsmen of Washington, Oregon, Montana, Idaho, and Wyoming, but before its completion difficulties arose with the local authorities as to the kind of sewerage system to be installed. The controversy delayed the work of construction, necessitating the distribution among other camps of the Guardsmen originally allotted to this mobilization center. Now practically completed, there are no Guardsmen to occupy the camp. It is being utilized, therefore, to house artillery, cavalry, and infantry detachments of the Regular Army.

Menlo Park is a district of beautiful residences and grounds; one mile east is Palo Alto, the station nearest to Leland Stanford University, while to the south runs the lovely Santa Clara Valley.

The average annual temperature is 58 degrees, and the variation from this throughout the year is slight. The San Francisco region has sunshine 283 days of the year and an average of 141 cloudless days.

Camp Frémont honors a name noted in the spectacular, romantic days of early California and the West. John Charles Frémont, an American, son of a French father, was distinguished as a soldier, explorer, and political leader. His career as an explorer began about 1837, when he took part in railway surveys in Georgia, North Carolina, and Tennessee. His next survey took him farther west and secured him an appointment as second lieutenant in the Topographical Corps, U. S. A.

In 1842, with 21 men, he made his first expedition to the far West, Frémont Peak, of the Wind River Range, receiving its name in that year. The following year he commanded a second expedition, with the object of supplementing the work of Commander Wilkes on the Pacific coast. Frémont's report, published in 1844, created a sensation. His third expedition became of vital importance in the acquisition of California. Upon the refusal of the Mexican officials to allow him to continue his exploration, he fortified his party near Monterey, thus taking the first step of the Mexican War in California. When the settlers of the turbulent Sacramento Valley replied to Mexican threats of expulsion by the capture of Sonoma and by hoisting the "Bear Flag," Captain Frémont took command, creating an American military occupation.

His part in the following events was complicated, and after the war he resigned from the service, feeling that he had been deeply wronged. He led a fourth and a fifth expedition to the Pacific, neither of which yielded important results. He was appointed a major general at the outbreak of the Civil War and resigned from service for the second time in 1864.

His devotion to the project of a Pacific railway involved him in financial ruin during the panic of 1873. From 1878 to 1882 he was Governor of Arizona. In 1890, shortly before his death, he was reappointed a major general on the retired list. Frémont River, Frémont Pass, and the town of Frémont, Ohio, all commemorate his name.

PRACTICAL PATRIOTISM

The National Geographic Society has contributed a subscription to the NATIONAL GEOGRAPHIC MAGAZINE *to every Y. M. C. A. and Knights of Columbus reading-room and every Camp Library (upwards of 1,000 copies) in each of the National Army Cantonments, National Guard Camps, Regular Army Mobilization Camps, Aviation Camps, Embarkation Camps, Naval Camps and Training Stations throughout the United States.*

THE IMMEDIATE NECESSITY FOR MILITARY HIGHWAYS

By A. G. Batchelder

Executive Chairman American Automobile Association

EVERY highway in the country now possesses potential military value, for each dollar saved in the cost of transportation counts in the sum total of war saving. The expense per mile in carrying a bale of cotton in Texas or a bushel of wheat in Minnesota to the nearest market or shipping point figures in the cost to him who uses the finished product.

While we proudly proclaim on all occasions our greatness in every line of development, we have been woefully dilatory in giving thought and attention to a subject that is vital to the progress of civilization. In short, millions of dollars annually are being literally thrown into the ditch through careless and decentralized management of our highway system; and yet we laugh at the thought of any European country trying to compete with us!

HIGHWAY TRUNK LINES ESSENTIAL FOR RAPID TRANSPORTATION OF TROOPS AND SUPPLIES

From the two and a quarter million miles of road in the United States there should emerge a number of great highways, requiring federal consideration in coöperation with the several States, in such manner as to bring forth ultimately a national road system similar to that which has blessed France and added so materially to her wealth, in the proper distribution of her products—aye, and saved her very existence as a nation when the Hun leaped at her throat.

We are just learning how to select these national highways, relieve the States of a part of their road burdens, and at the same time produce great arteries of communication which will fit into a logical plan of nation-wide military defense. Certain of these roads must have a special military importance; others will have only an indirect value. The whole system constitutes a vast network of thoroughfares, each having its special function in meeting the nation's maximum requirements.

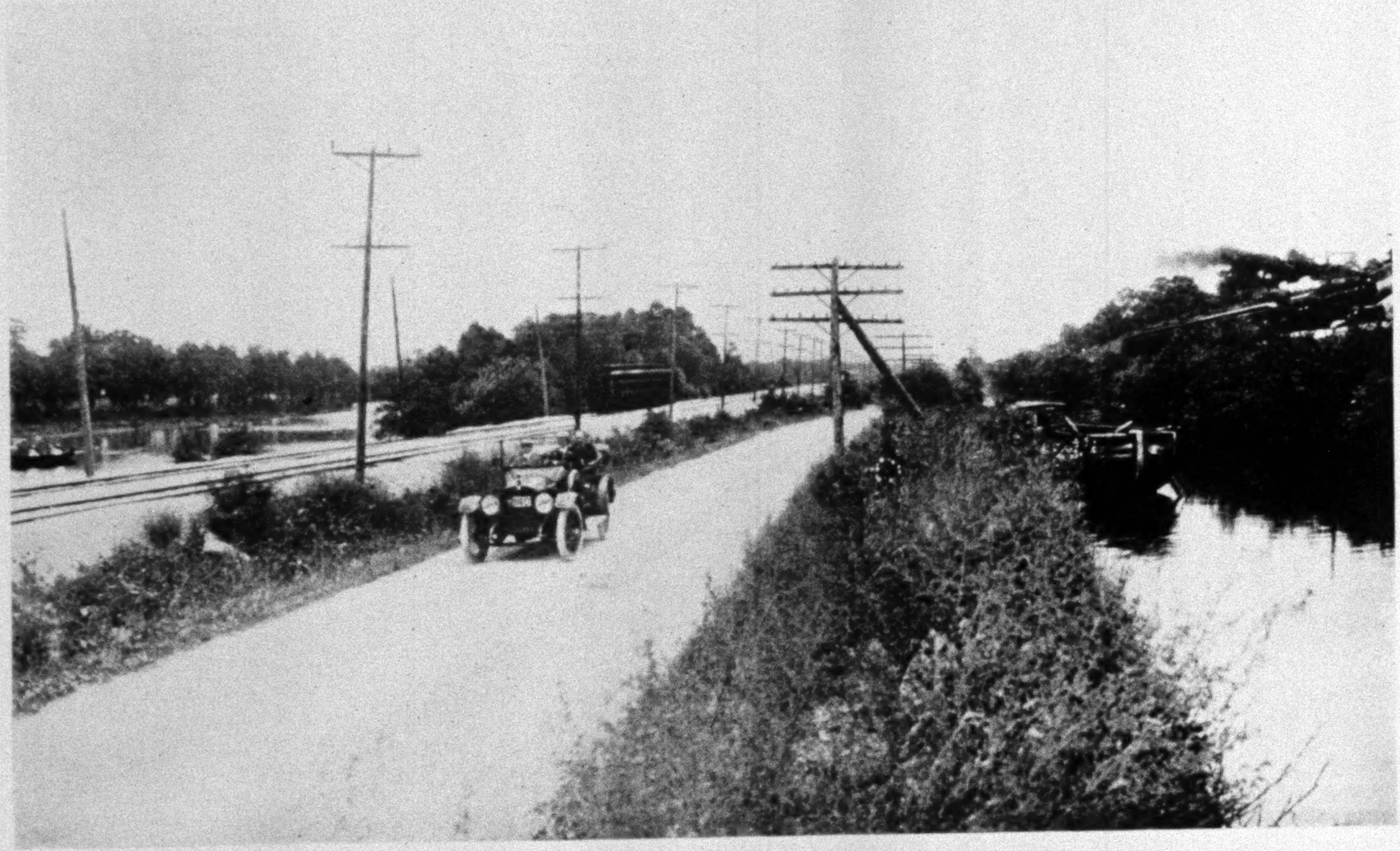
When reference is made to a "military highway" it does not follow that this must be a road over which heavy ordnance will be moved or over which thousands of soldiers are to be transported. Our needs for defense in the present emergency are diversified and far-reaching and have to do with all means of communication.

The "second line of defense" is a comprehensive term. It has been truly said that the practical value of a highway increases as its connected mileage multiplies—town to town, county to county, and State to State—until we link the several sections and thus engender national understanding and coöperation, ridding ourselves of localisms and even shattering the old disintegrating nightmare of "States' rights."

A PROBLEM WOULD BE NO GREATER IN DARKEST AFRICA

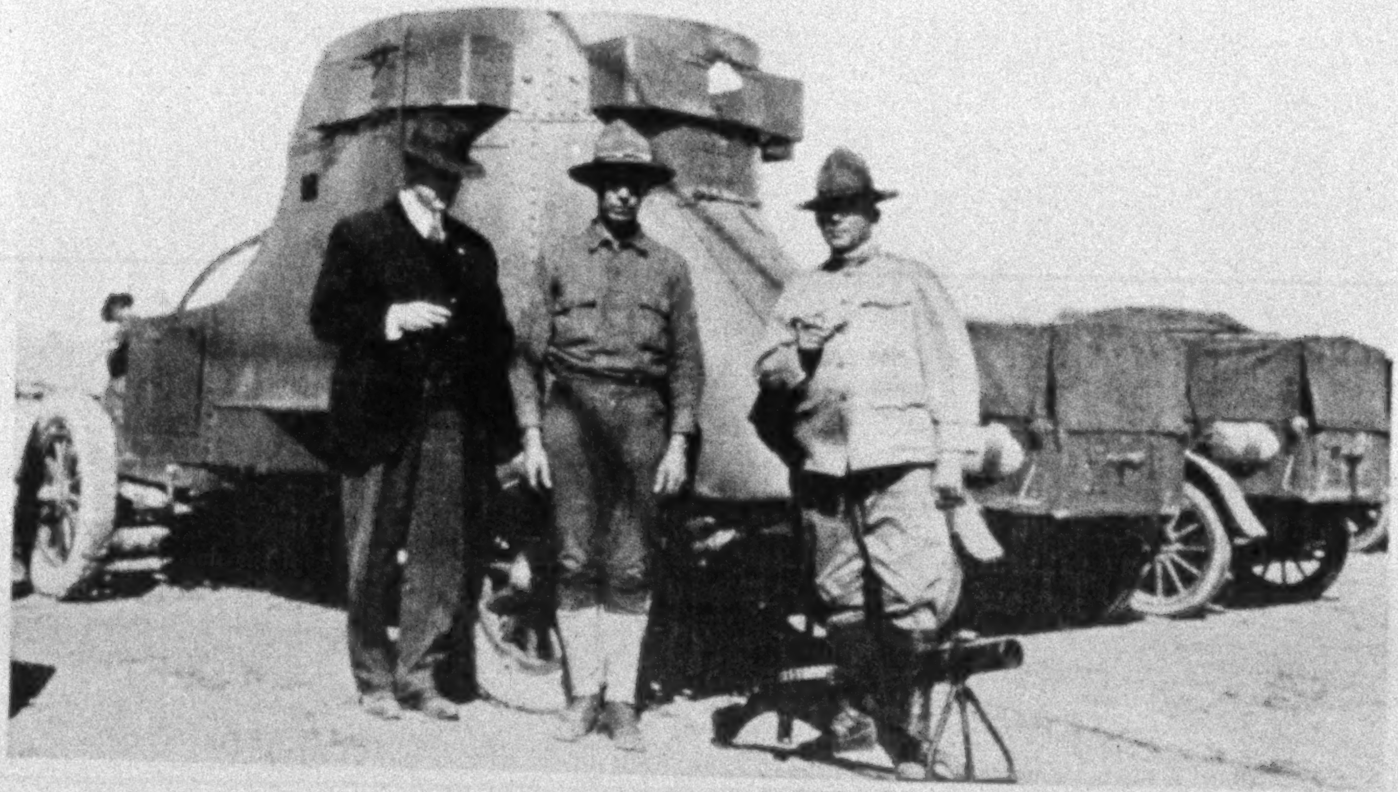
Bring to mind a long stretch of road extending from Washington to Atlanta, along which are located six cantonments and training camps, housing nearly 200,000 soldiers; picture it as it is, with many disabling and discouraging miles which try man and vehicle to the utmost, practically impassable during inclement weather, punctuated with bog holes and skidding surfaces, alternating between sticky clay and rock-strewn patches, seemingly unimproved since the Civil War.

Less than 800 miles separate the capital of the country and the chief commercial city of the South. Over a real highway this distance could be covered in 48 motoring hours; a caravan of self-propelled vehicles could transport a powerful



THE AIRPLANE ALONE IS MISSING

In this unusual photograph five ways in which the American travels and transports his worldly goods are shown. At the extreme left is the pleasure canoe on a placid river, beside which runs a double-track electric carline. Then comes the splendid automobile highway. To the right is the tug-drawn canal barge, while on the embankment above is a locomotive and train of passenger cars running at full speed. Observe, also, that overhead are electric, telegraph, and telephone wires, conveying power, light, and information.



Photograph from Office of Public Roads

AN ARMORED CAR AND AUTOMOBILE TRUCKS ON THE TEXAS BORDER

"We are just learning how to select national highways, relieve the States of a part of their road burdens, and at the same time produce great arteries of communication which will fit into a logical plan of nation-wide military defense."

army from one threatened city to the other in that length of time, just as the Huns have frequently moved great bodies of troops from one frontier to another as the strategy of the hour required.

Did not France save both Paris and herself by virtue of a national road system which permitted her quickly to shift her defenders and their equipment by taxicab from the entrenched camp of the capital to a vulnerable point in the enemy's advancing line?

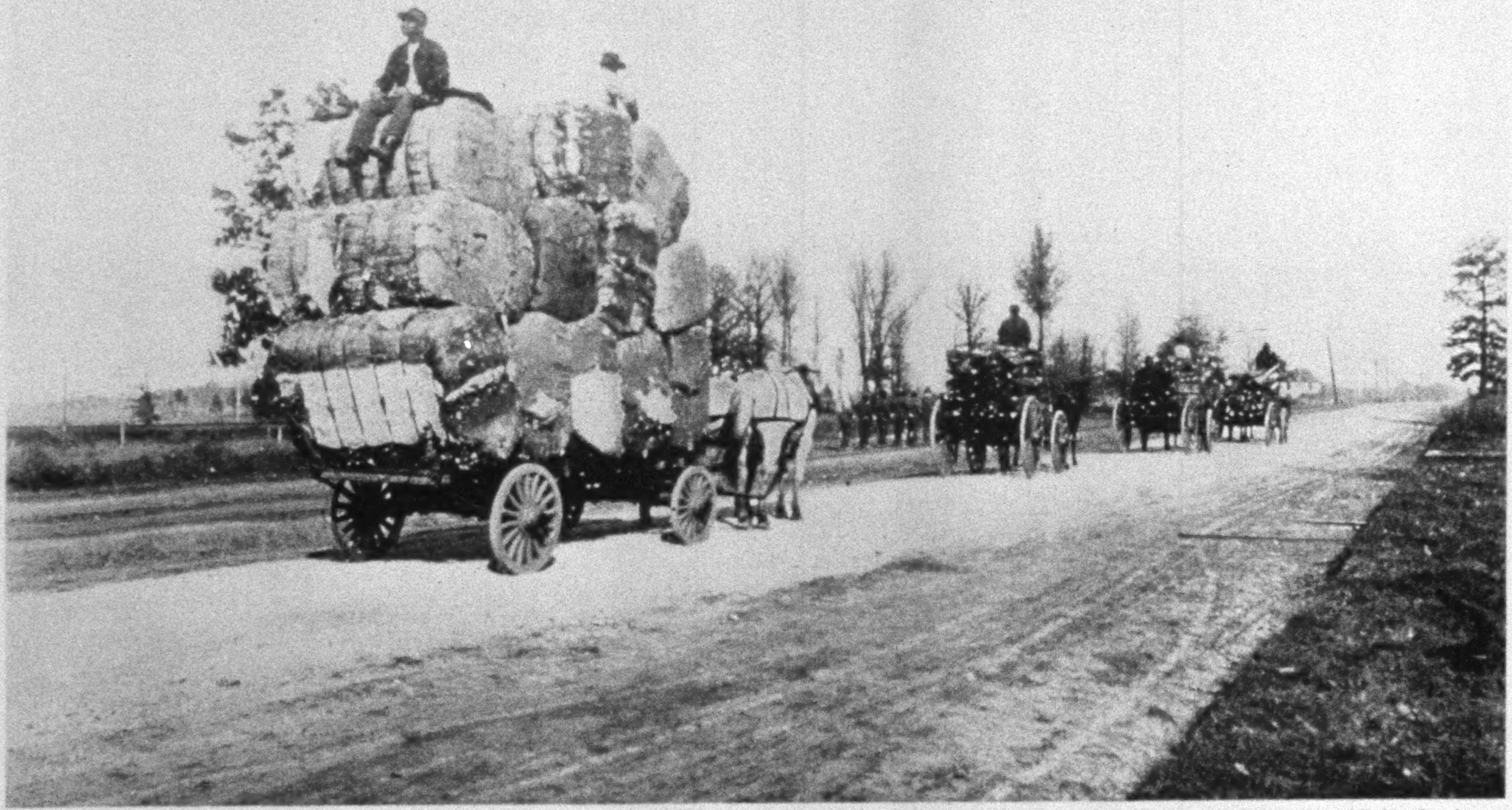
WHY NOT COÖPERATE AS A NATION INSTEAD OF AS A COLLECTION OF STATES?

The most progressive of our lawmakers, realizing the vital importance of a splendid highways system for America, are advocating broad, constructive legislation whereby the national government will assume an active interest and partnership in building those roads which connect the States and which facilitate commerce between the 48 units of which the country is composed.

Intimate relations between the inhabitants of various zones are now sadly handicapped by State lines, imaginary partitions which compel or invite conflicting and selfish laws and in consequence retard the nationalizing influence of the automobile, whose advent has proved as epoch-making as steam or electricity.

The projected Bankhead Highway is an illustration of what can and should be. The construction of this great medium of commercial and social intercourse, from Washington to Los Angeles, an all-year southern route, through latitudes where snow is never a serious handicap and along which no mountains are encountered, would create a living, pulsating example of a federalized road such as is essential in this war-time period of our history.

While it is the occasional traveler who uses a railroad between its extreme terminal points, the rails must be laid for the entire distance in order that inter-related and overlapping traffic, both passenger and freight, can be handled. If this is the situation in regard to railroads, how



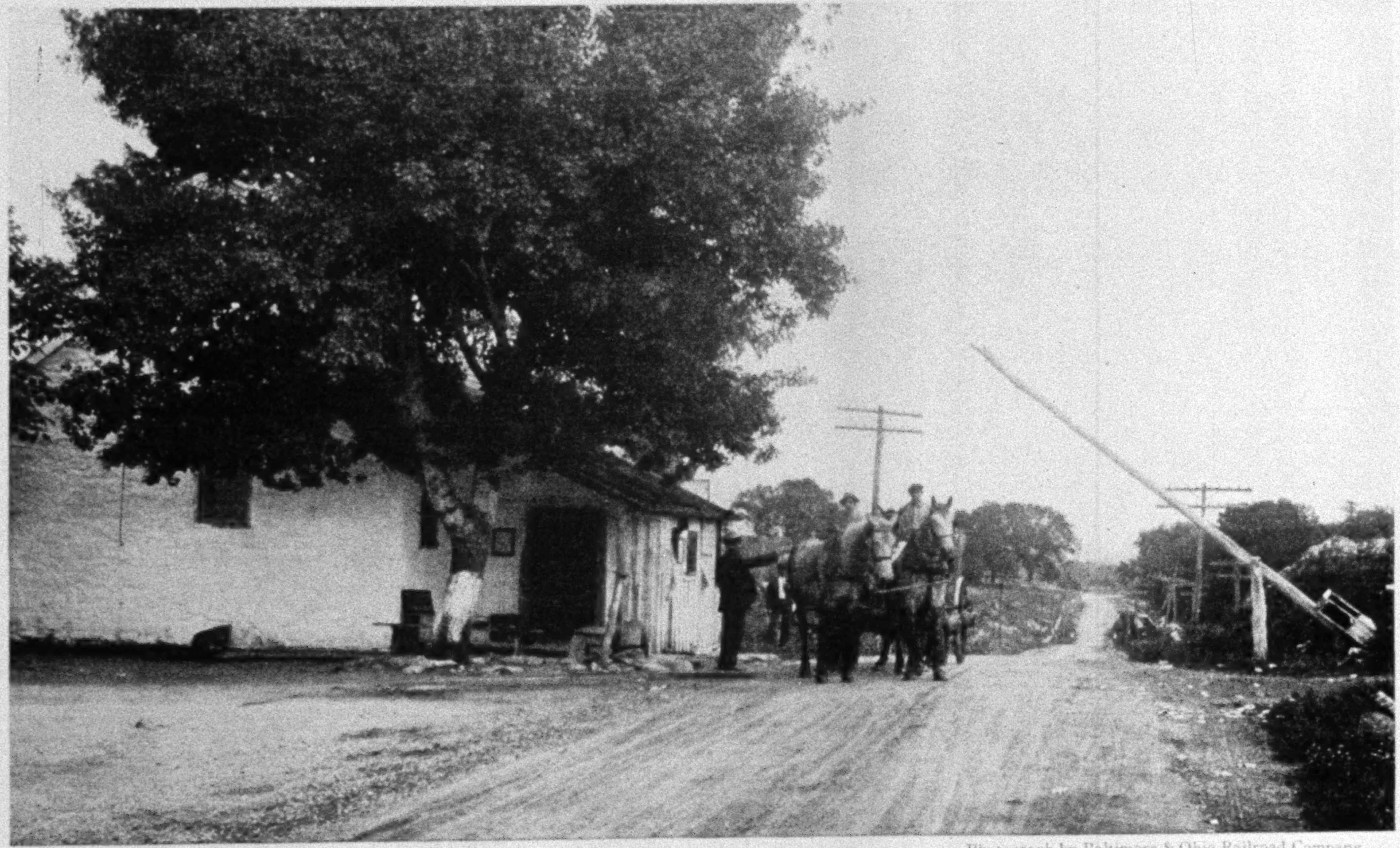
Photograph from Office of Public Roads

THE PROCESSION OF PROGRESS TRAVELS THE ROUTE OF GOOD ROADS

Every bale of cotton which a good road permits the farmer to add to his wagonload increases his profit and decreases the cost to the ultimate consumer. Such splendid highways as this, in Mecklenburg County, North Carolina, enhance the material and social wealth of the community through which they are built.

ROADS GOOD ENOUGH FOR MILITARY PURPOSES MAY SAVE THE UNITED STATES AS THEY SAVED FRANCE

Ready for the start on the military motor-truck test over the Dixie Highway, from Atlanta, Ga., to Fort Oglethorpe, Tenn. One test consisted of transporting 18 soldiers with their full field equipment. The trip was accomplished in 5 hours and 32 minutes, a saving in time of 3 hours over the railroad route and in money of $2.84 per man (see page 491).



Photograph by Baltimore & Ohio Railroad Company

A RELIC OF ROBBER BARON PRACTICES IN THE FEUDAL DAYS

Hundreds of years ago brigand knights installed themselves in castles which commanded the highways of commerce. From these strongholds they kept a watchful eye upon all traffic, and from each traveler, be he merchant, priest, or soldier, there was exacted a heavy toll for the "privilege" of passing in the shadow of these castles. On their misnamed "public highways" a few of our States are following the example of the robber barons, exacting a toll from every person passing over their thoroughfares. This toll-gate is near Harpers Ferry, West Virginia.

Photograph from Office of Public Roads

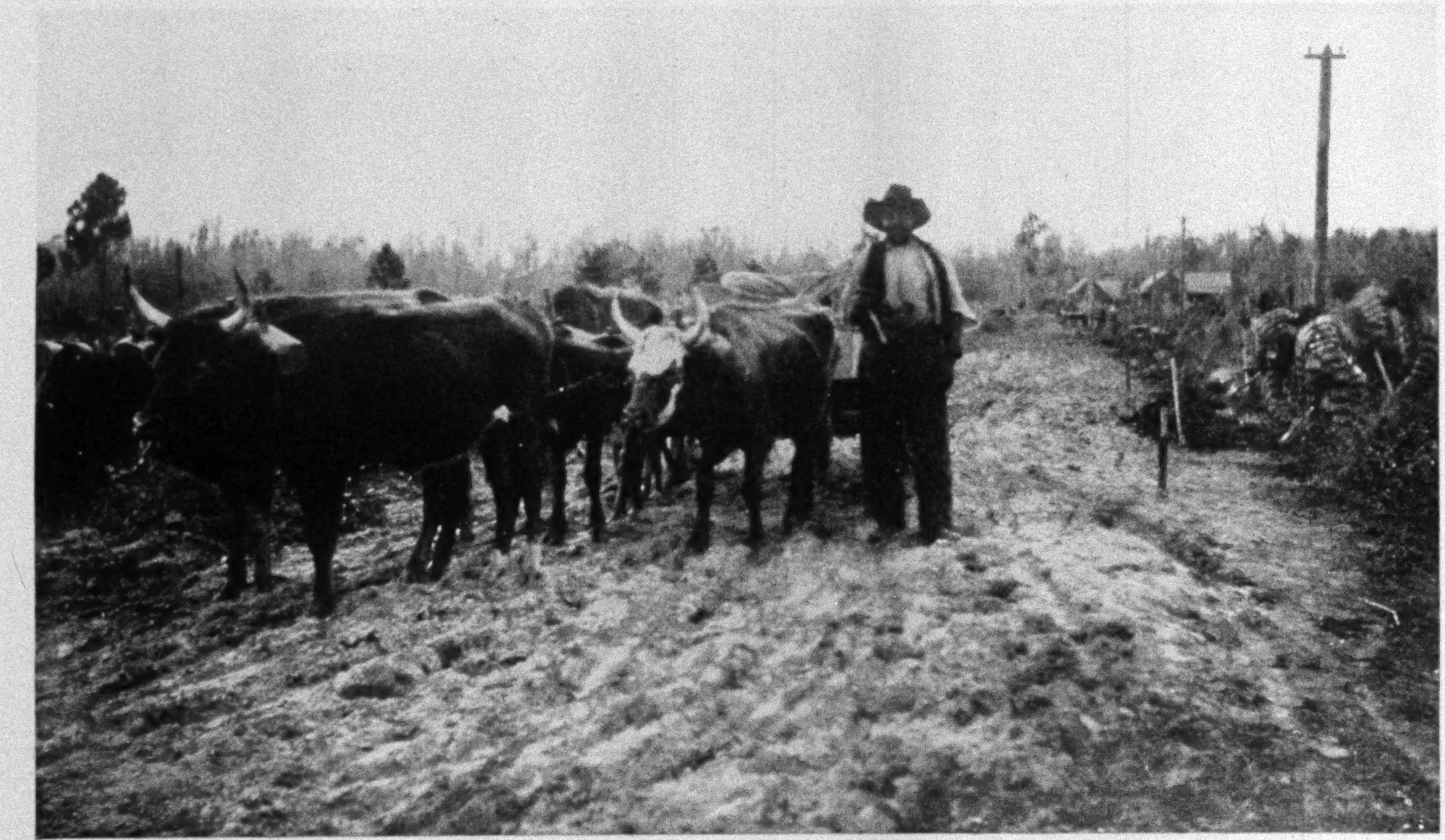
CONSTRUCTING A GOVERNMENT OBJECT-LESSON ROAD IN GEORGIA

In her hour of gravest peril it was her magnificent system of highways which saved France—when the Hun leaped at her throat. Her roads were constructed at a time when the occasion for their employment for military purposes seemed far in the future, but the need for them came suddenly and without warning. Forethought on the part of America may serve a similar end.

Photograph by Putnam & Valentine

HIGHWAYS DENOTE CIVILIZATION

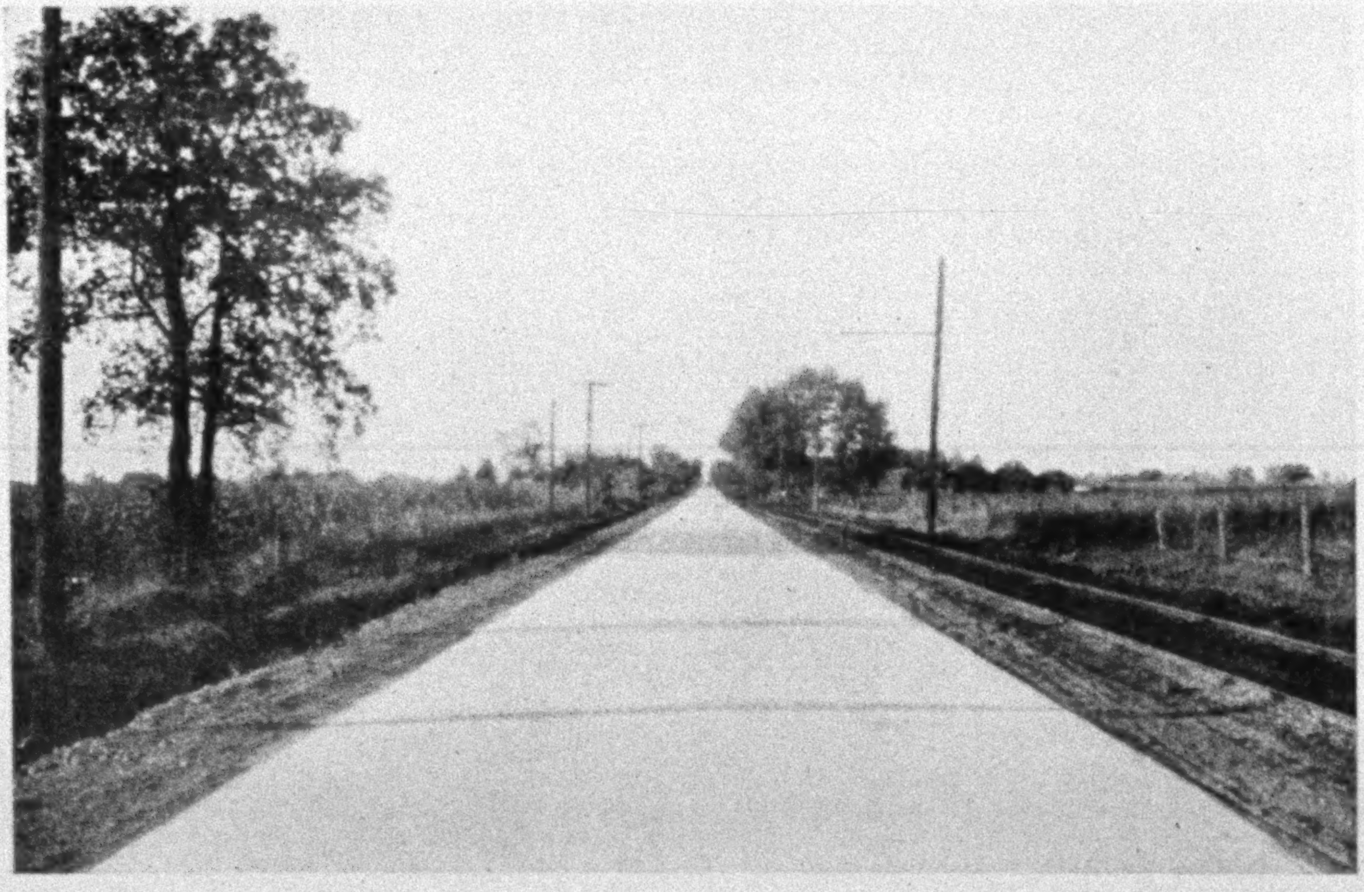
"Most of our States have scenic attractions that would cause any European country possessing them to invite the whole world to come and see; yet how few such assets, when you consider the vastness of our country, are accessible by road."



Photograph from Office of Public Roads

THIS GEORGIA DIRT ROAD, OVER WHICH OX-DRAWN VEHICLES ALONE CAN MAKE THEIR ACCUSTOMED "SPEED," WILL SOON BE READY FOR TRANSPORTATION OF THE FARMERS' PRODUCE AND FOR MOTOR TOURIST

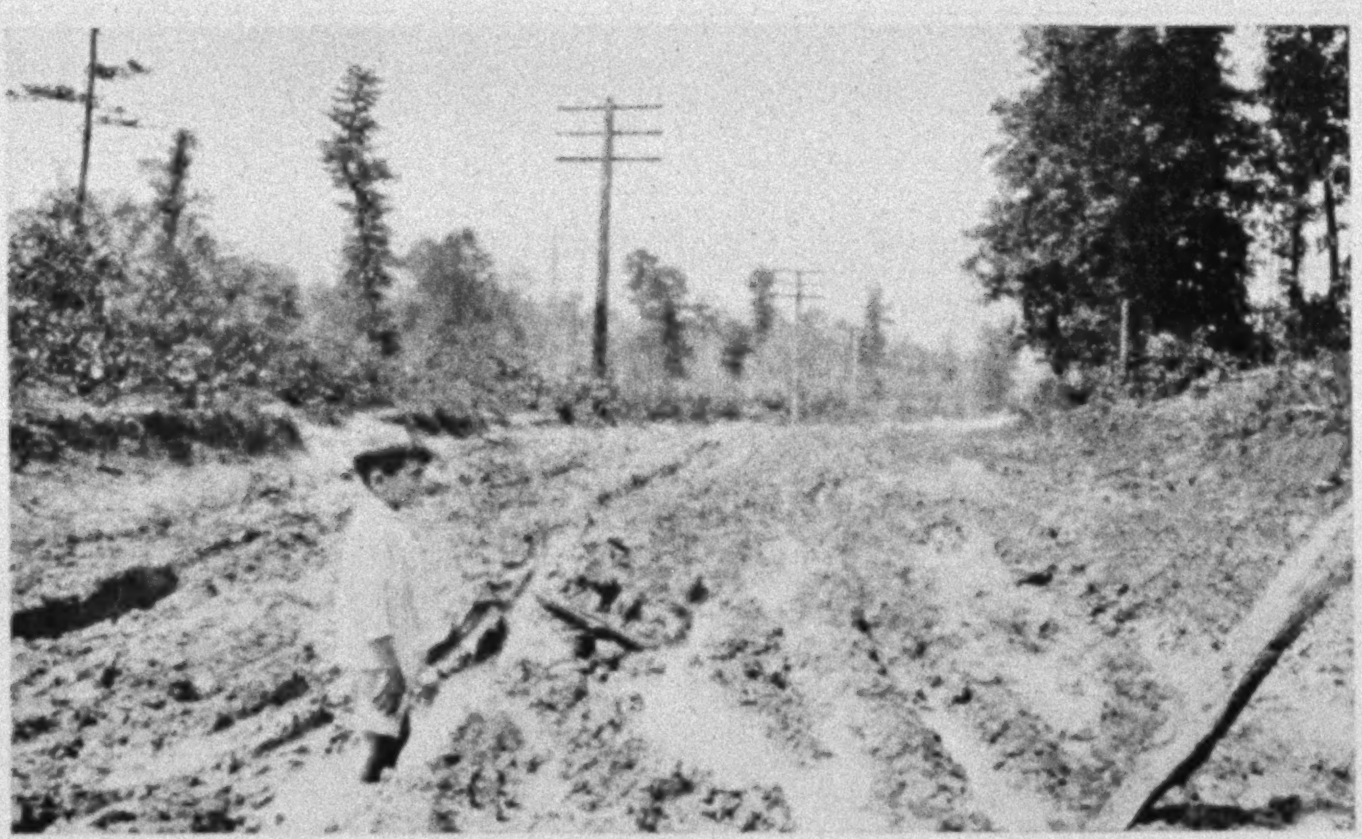
Long before the Civil War the ox-cart was used in the South to convey cross-ties from the pine-lumber camps to the seaboard, where they were shipped throughout the United States to be used in the construction of the nation's railroads. With the decrease in our pine forests the cost of ties has mounted amazingly. One way to lower this cost, it has been found, is to improve the roads over which the ties are brought to tidewater. To the right of the picture convicts may be seen mixing clay and sand, to be used as a hard surface for this Glynn County road, on the outskirts of Brunswick, Ga.



Photograph by Manning Brothers

WHEN OUR AMERICAN ROADS ARE GOOD THEY ARE VERY, VERY GOOD

A superb concrete highway in Wayne County, Michigan. Such thoroughfares as these are an asset not only to the communities which they serve directly, but to the whole nation.



AND WHEN THEY ARE BAD THEY ARE HORRID!

A stretch of "highway" through the Chapawamsic Swamp, Va. Such quagmires cost the State thousands of dollars every month and impede national prosperity to a degree which cannot be computed in money values.

Photograph from Office of Public Roads

WHAT REAL ROADS DO FOR THE PEOPLE

"In comprehensive transportation plans it is now essential that highways be given equal, if not greater, consideration than rail lines. Main arteries must accept the multiplying traffic of the tributary roads, which means rugged construction and systematic maintenance."

much more insistently it must apply to highways building in connection with those roads within a State which unite with similar roads in adjoining States; for if we are a nation, why should intercourse cease or hesitate when a State's border is crossed?

FEDERAL AID FOR STATES IN BUILDING GOOD ROADS

Under the provisions of the Federal Aid Road Act, achieved by the distinguished Senator from Alabama, John H. Bankhead, the money contributed from the national treasury, to which the States add a like amount, can only be expended upon roads over which United States mail is delivered or may be delivered. There exists no provision whereby military needs can be taken into consideration, and the present situation demands the early passage of a law which will grant to the Secretary of War authority to build roads used by the army. The Chamberlain-Dent bill gives the Secretary of War authority to build military roads into the authorized cantonments and camps from nearest railroad or water transportation centers. At the present time he is authorized to spend millions for building the camps, but not a cent to construct a road within their limits nor to connect them with anywhere else. The War Department thus finds its hands tied when it comes to obtaining a more complete line of communication with its soldier cities in the Southland, where for years the problem of roads has scarcely been touched, owing to the poverty of a great many counties, as well as slowness of the people in realizing the importance of all-year highways.

Not until the motor-road travelers began to multiply and gradually extended their journeyings from county to county, and then from State to State, did we begin seriously to consider and view things from the national standpoint.

True, the number of our States had gradually increased until there were forty-eight, connected in a way which at times betrayed startling defects in na-

Photograph by Putnam & Valentine

CALIFORNIA IS DEVELOPING A SPLENDID HIGHWAY SYSTEM

"The projected Bankhead National Highway is an illustration of what can and should be The construction of this great medium of commercial and social intercourse, from Washington to Los Angeles, traversing the Sunny Southland throughout the entire distance, would create a living, pulsating example of a federalized road, such as is essential in this war-time period of our history."

USING A DRAG IN THE IMPROVEMENT OF A ROAD IN NORTH CAROLINA

"Under the provisions of the Federal Aid Road Act, achieved by the distinguished Senator from Alabama, John H. Bankhead, the money contributed from the national treasury, to which the States add a like amount, can only be expended upon roads over which the United States mail is delivered or may be delivered."

tional cohesiveness. While the Civil War had settled certain fundamental problems, there yet remained at issue many points in which Federal and State contact produced explosions in the nation's combustion chamber. States grudgingly gave up what they considered their "rights," yet citizens generally came to recognize that the whole must be greater than any one of its parts if it is to survive and actually flourish in the form of a united nation.

YOU GENERALLY LIKE YOUR NEIGHBOR—WHEN YOU KNOW HIM

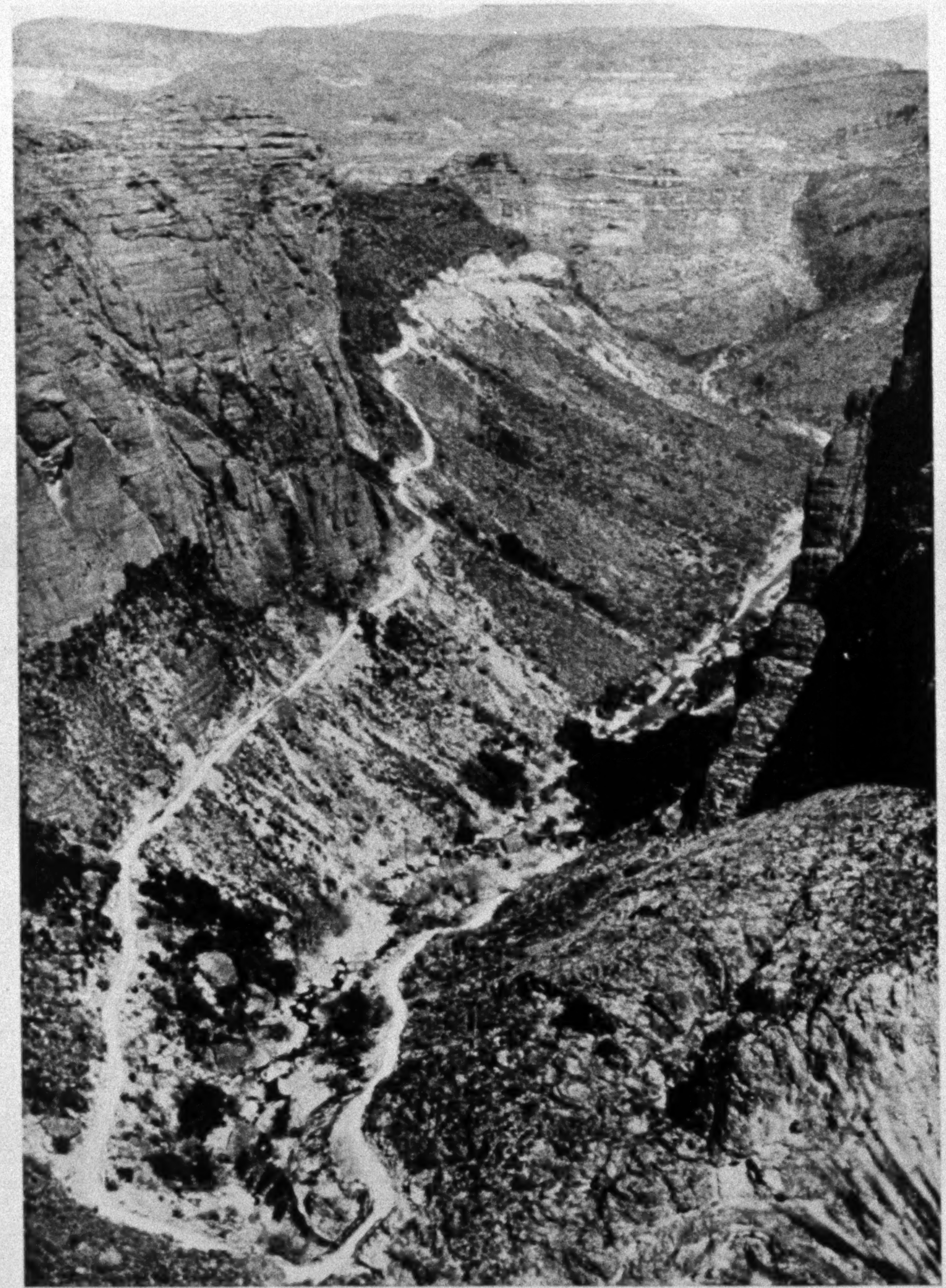
Acquaintanceship does much to dispel prejudices and dislikes, and so the increase in the number of self-propelled vehicles and the building of thousands of miles of roads, facilitating the comings and goings of the people of the several States, have brought about a country-wide understanding among citizens of all sections and awakened true nationalism.

Having within a State established the proposition that the more thickly populated and wealthier counties must aid and coöperate with the poorer and less developed sections, it was only a step farther to contend that the older and richer States must give of their accumulations and strength to the less populous and less prosperous commonwealths.

While a man in a certain State might pay a considerable income tax, it does not follow that all of his investments and all of his profits accrue within the confines of the particular State in which he lives. Therefore, a part of what he pays should be employed in the development of the whole country and not confined to the federal coöperation which specifically relates to his State. We must, in the final analysis, think in national terms.

A NECESSITY FOR COMMERCIAL DEVELOPMENT; VITAL IN WAR

From Calais, in Maine, to Miami, in Florida, our Atlantic coastline has a length slightly in excess of 2,000 miles. From Puget Sound to San Diego our Pa-



THE EAST, WEST, NORTH, AND SOUTH BECOME ONE WHEN ROADS LINK THEM

A highway in one of our Southwestern States which has a grade falling 1,000 feet in one and a quarter miles

THE PRICE OF GOOD ROADS, LIKE THAT OF LIBERTY, IS ETERNAL VIGILANCE

Having built a highway, it is sound economy to keep it in perfect condition. Here a road-mender, with his supply train to the left, is seen repairing cracks in the highway surface.

cific coastline is several hundred miles shorter. Two broad, well-built highways paralleling these coastlines, supplemented by a large number of lateral feeder roads, would serve the purpose of establishing military defense arteries advertising distinctly that we were ready for any callers who might pay us an unfriendly visit, and in addition these interstate avenues would meet the commercial and social needs of the regions through which they passed.

Roads of this character would link our seaports in such manner as to encourage coastal commerce and the amplified use of our waterways in relieving the excessive demands upon other means of transportation. In the motor truck we have obtained the land vehicle with which commercially to abridge distance and reduce in no small degree the unprofitable handicap of freight terminals.

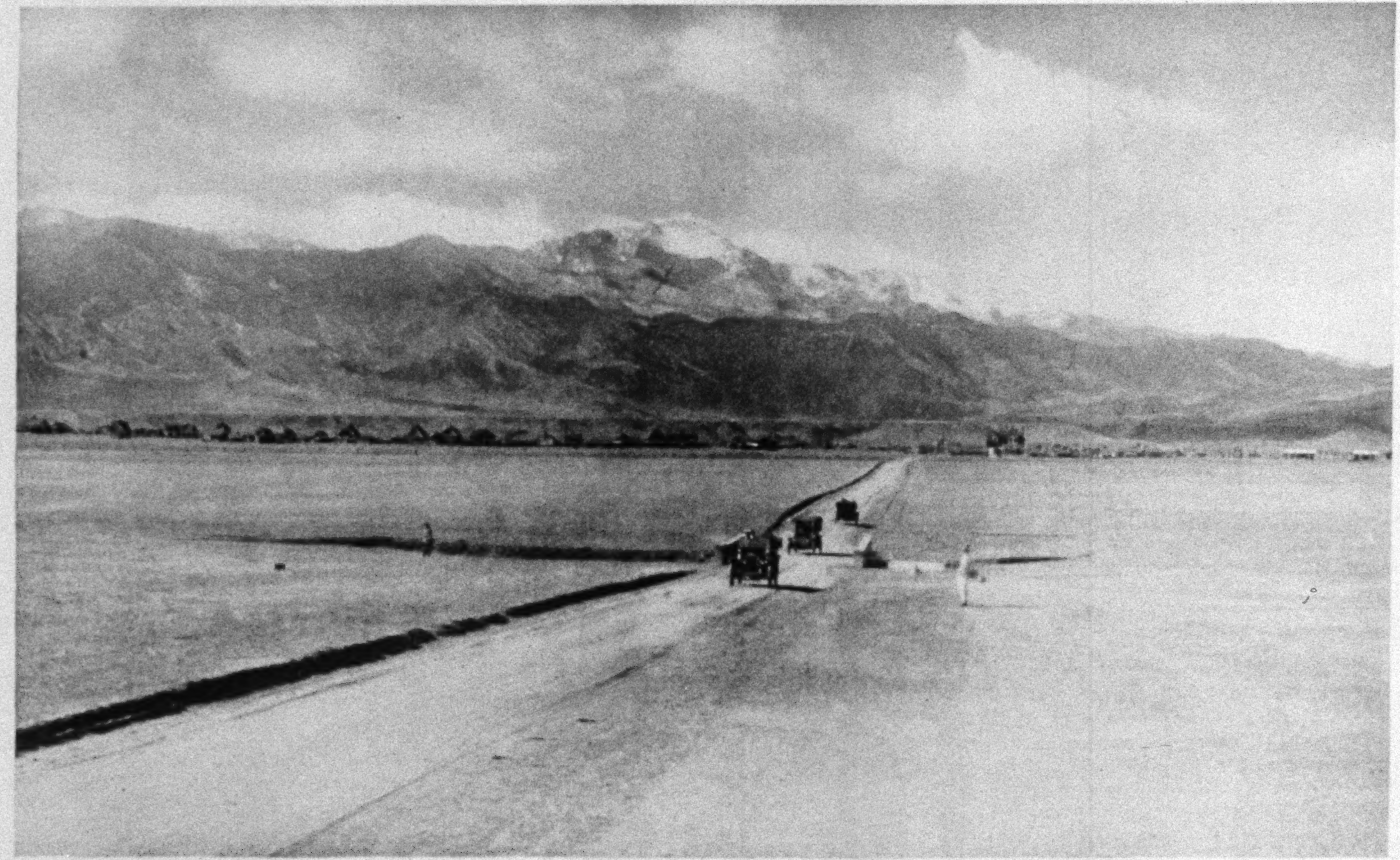
PRACTICAL TESTS OF MOTOR TRANSPORTATION

Not long ago the feasibility of motor-truck transportation was demonstrated between Atlanta, Ga., where the Quartermaster's Supply Depot for the Southeastern Department is located, and the cantonment at Fort Oglethorpe, just outside of Chattanooga, Tenn., a distance of 130 miles, over a road that can only be called "fair," even in dry weather. One test consisted of transporting in a motor truck a detachment of 18 soldiers, with their full field equipment, from point to point in 5 hours and 32 minutes (see page 481).

Taking into consideration the time lost via the railroad route in entraining, switching delays, and marching the men to the station, the truck traversed the distance in three hours less than the time made by rail and, moreover, delivered the men exactly where they were wanted.

The cost figures also present some interesting facts, the saving being estimated at $2.84 per man over one of the routes between the two points and $2.89 per man over another 14 miles shorter, but boasting several stretches of inferior road.

When it came to supplies, the five two-ton trucks met the situation quite economically, the cost being $7.97 per ton against $9.59 in carload lots by rail. Of



Photograph by Craft Shop

A SPLENDID COLORADO HIGHWAY OVER WHICH PIKES PEAK STANDS GUARD

"Acquaintanceship does much to dispel prejudices and dislikes, and so the increase in the number of self-propelled vehicles and the building of thousands of miles of roads, facilitating the comings and goings of the people of the several States, have brought about a country-wide understanding among citizens of all sections and awakened true nationalism."

Photograph from Office of Public Roads

AN ACCEPTABLE HIGHWAY FOR GOATS AND GEESE, BUT NOT EXACTLY ADAPTED TO THE NEEDS OF ARMY AUTO-TRUCK TRANSPORTATION

course, the figures include the cost of transfer to the railroad station from the warehouse. The saving in time was greater proportionately in the freight demonstration than in carrying the soldiers.

A FAIR DISTRIBUTION OF THE BURDEN

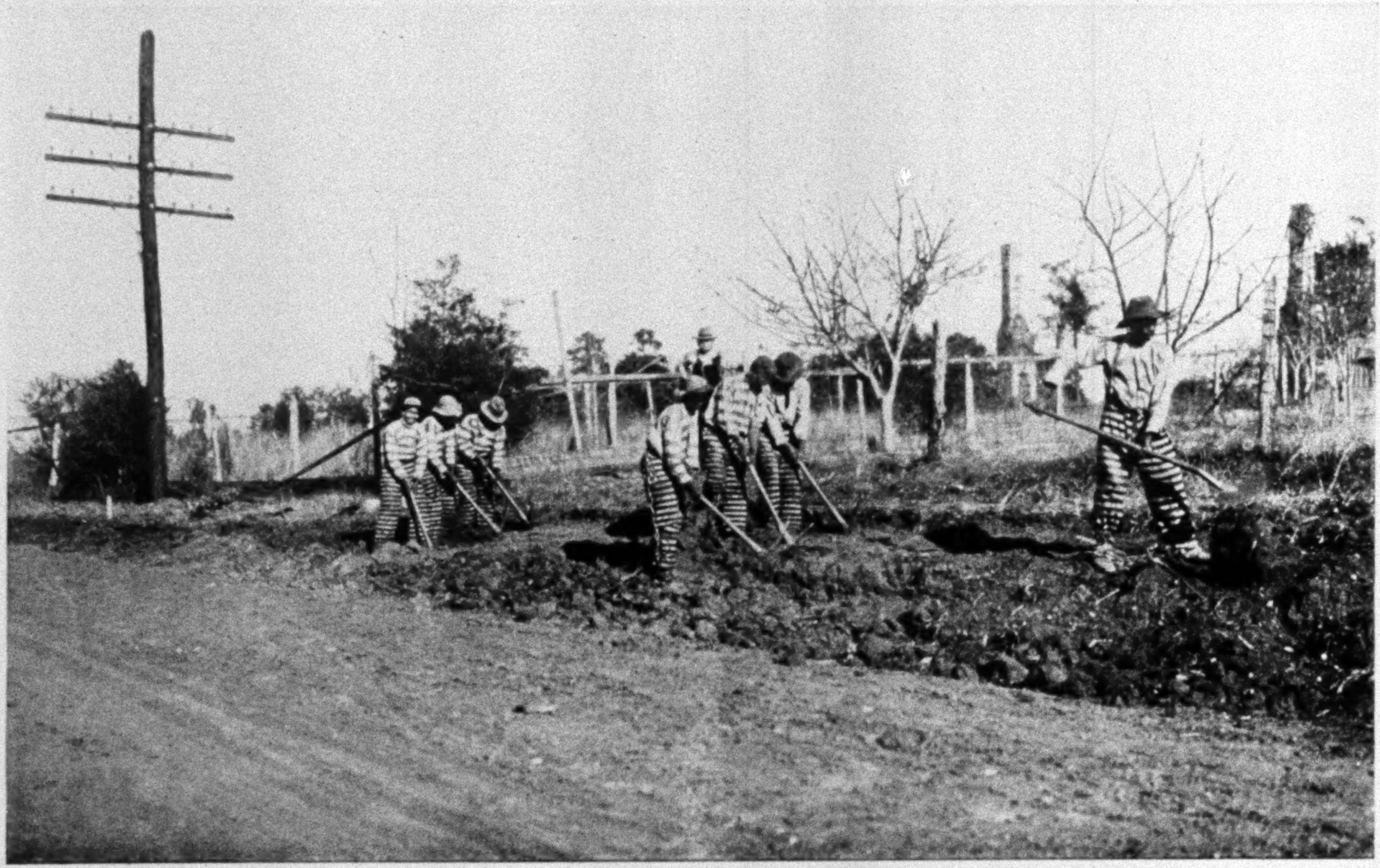
Now consider the familiar question of the proper distribution of road cost and maintenance. The weather conditions for the test were ideal; in wet weather, the thing simply couldn't have been done. Unreasonable in the extreme would be a contention that the counties of Georgia and Tennessee should build and maintain this federal-used stretch of highway, which must be available 365 days in the year in order to make it a reliable means for army transportation, and build it to stand up under heavy military lorries as well as passenger automobiles.

Not only must the States help the counties through which the route passes, but the National Government must come to the help of the States, and, if necessary, accept entirely the burden of maintenance during the progress of any war which necessitates the construction of these training camps and cantonments and presents the problem of providing daily thousands of tons of supplies and equipment.

Atlanta and Chattanooga are both on the line of the Dixie Highway, which extends north to Nashville, Louisville, Indianapolis, and Chicago, and which has an eastern division extending from Detroit to Cincinnati, thence to Knoxville and Chattanooga. It is only just that mention should be made of the fact that Carl G. Fisher, of Indianapolis, who originated and had much to do with the splendid progress of the Lincoln Highway, was also a prominent factor in the advancement of the Dixie Highway, projects that are not created to run by any particular individual's garden gate, but to link counties and States into a nation.

HIGHWAYS NOW IN USE FOR WAR PURPOSES

Certain sections of the Lincoln Highway serve a valuable interstate purpose



WHAT MORE USEFUL SERVICE TO THE STATE COULD BE RENDERED OR ONE MORE HEALTHFUL TO THE CONVICT?

"From the two and a quarter million miles of road in the United States there should emerge a number of great highways, requiring federal consideration in coöperation with the several States"

Photograph from Office of Public Roads

LOWERING THE COST OF LIVING: TRANSPORTATION FACILITIES, FEDERAL-AID ROAD BETWEEN PORTLAND AND BRUNSWICK, MAINE

"From Calais, in Maine, to Miami, in Florida, our Atlantic coastline has a length slightly in excess of 2,000 miles. From Puget Sound to Tia Juana, our Pacific coastline is several hundred miles shorter. Two broad, well-built highways paralleling these coastlines, supplemented by a large number of lateral feeder roads, would serve the purpose of establishing military defense arteries, advertising distinctly that we were ready for any callers who might pay us an unfriendly visit."

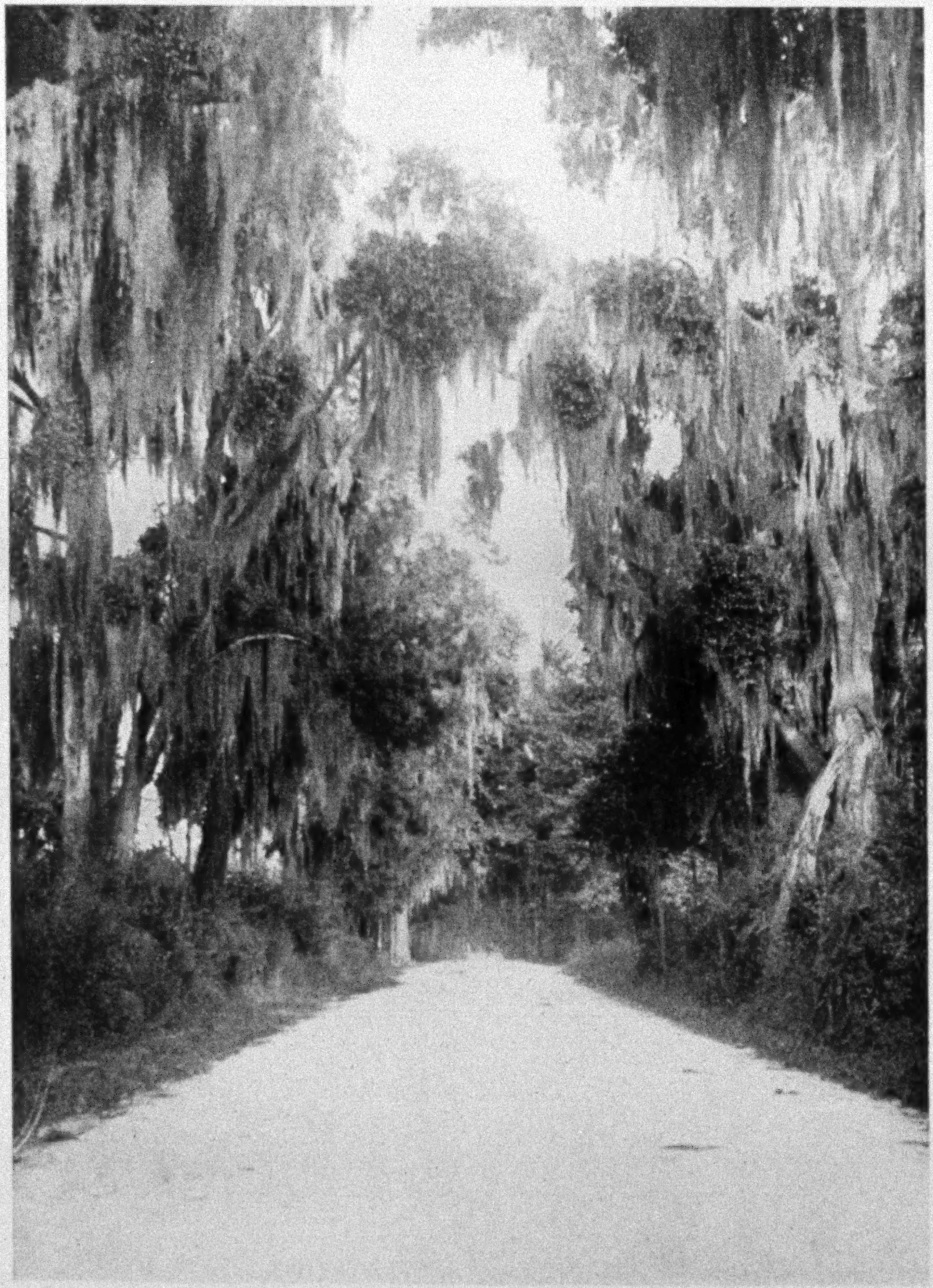
in the traffic congestion of the present hour, particularly with reference to the passage of motor trucks over the road from Northern factories down to the National Capital. Many an automobile factory is delivering its cars to agents by sending them over the road, thus releasing hundreds of freight cars for the all-important transportation of foodstuffs and war material.

The passenger automobile now counts as a transportation asset which can hardly be disregarded in any comprehensive handling of transportation problems which are certain to become worse before they are better.

PRACTICAL ROAD-BUILDING BY GOVERNMENT EXPERTS

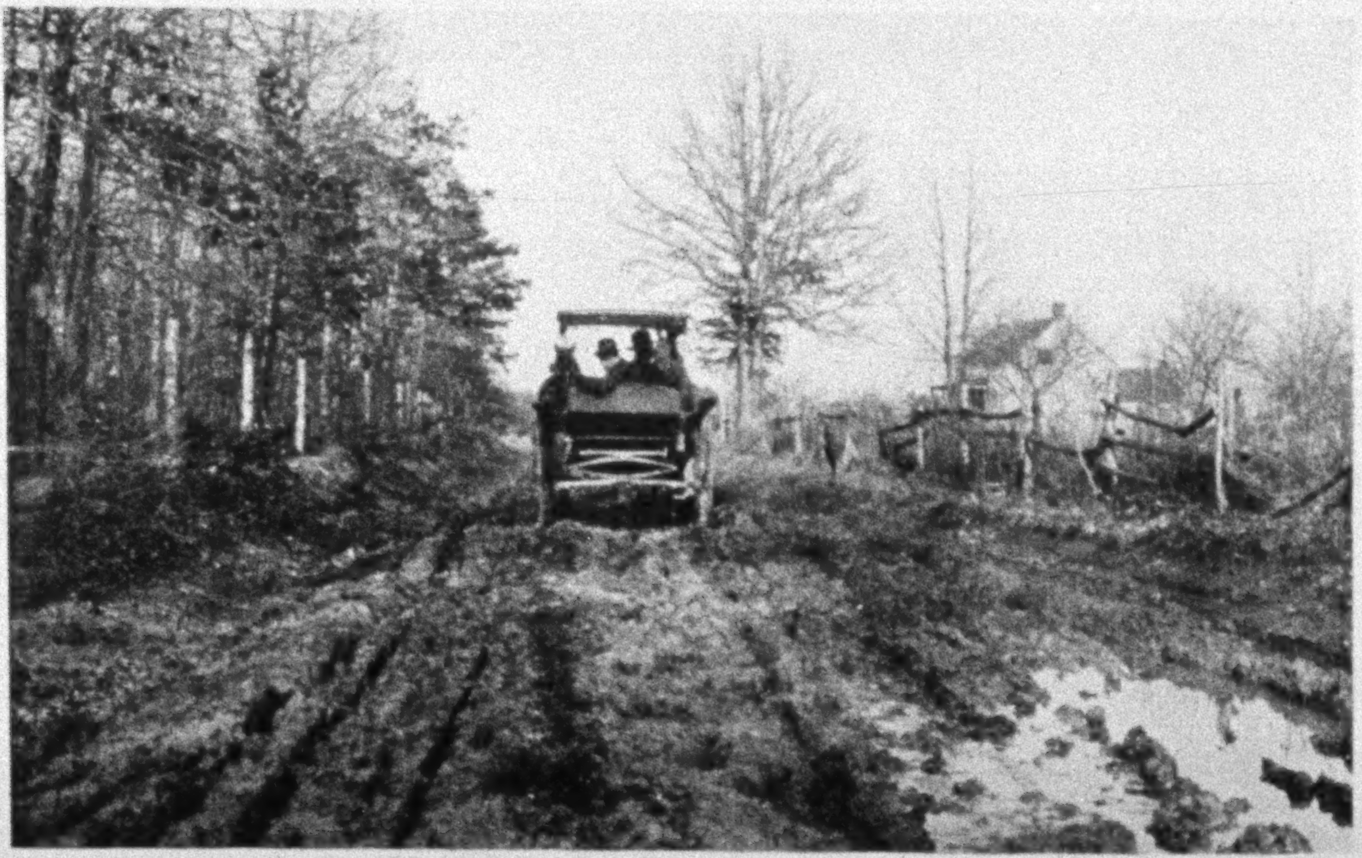
Several years ago the United States Office of Public Roads and Rural Engineering constructed experimental roads in the outskirts of Washington, D. C. During the past six years they have been given systematic attention, including a census of the traffic which has passed over them. On one stretch of Connecticut avenue near Chevy Chase circle a traffic record in 1916 covering a 24-hour period showed 509 motor-propelled vehicles and 50 horse-drawn vehicles going north, and 392 motor and 48 horse vehicles traveling in the opposite direction.

On the Rockville Pike, in Montgomery County, Maryland, a 24-hour period produced 233 motor cars and 28 horse-drawn vehicles going north, and 242 motor-driven and 24 muscle-drawn vehicles going south. On the Mt. Vernon road, in Alexandria County, Virginia, the traffic records supplied an even more preponderant majority in favor of the motor-driven vehicles, there being 577 automobiles as against 13 horse-drawn wagons



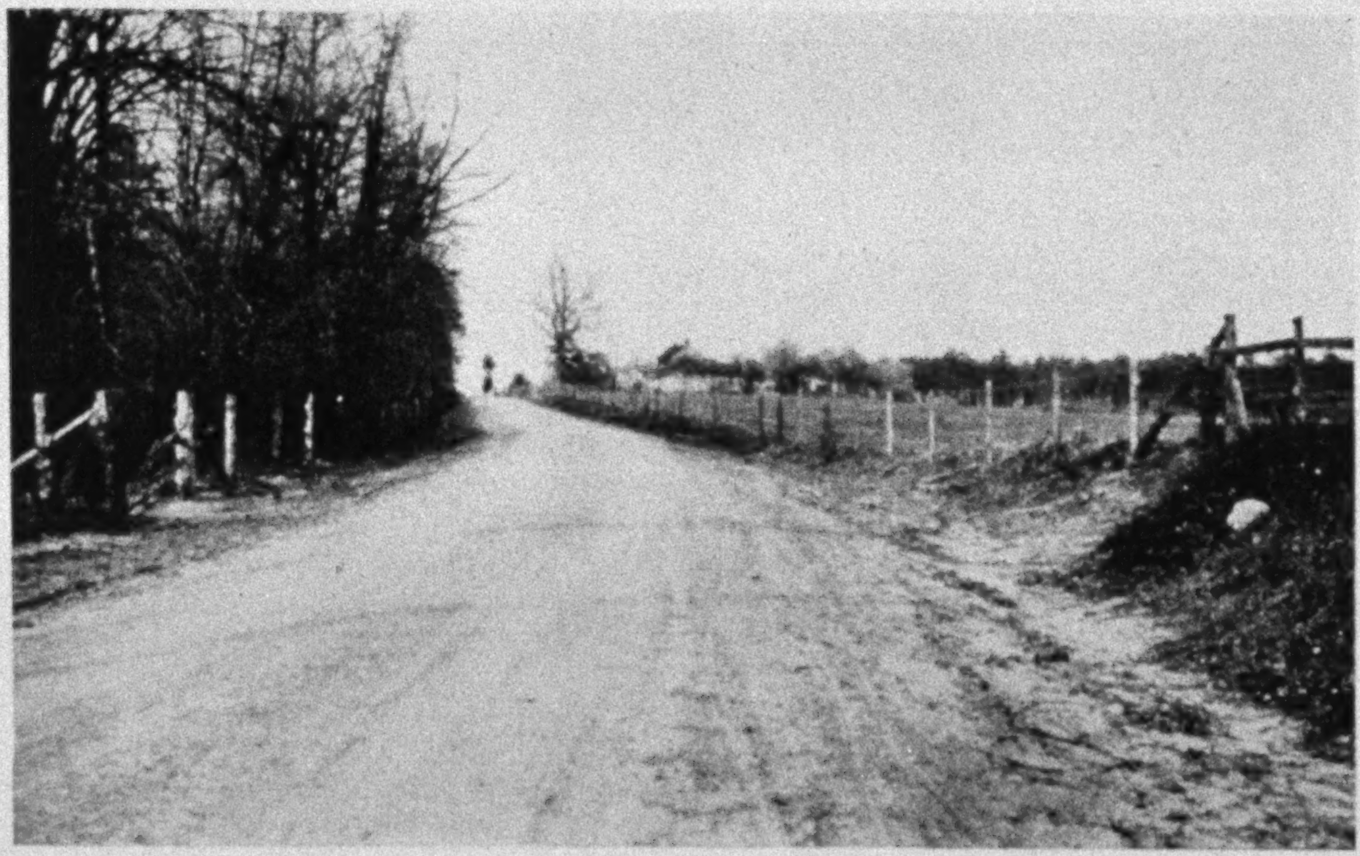
VIEW OF ONE OF THE FAMOUS CHATHAM COUNTY ROADS

Savannah, Ga., is noted for her more than 150 miles of automobile roads in and about the city, reaching the many beautiful resorts within a radius of from 5 to 12 miles. These roads, arched by live oaks, stately pines, and beautiful magnolias, from which hang graceful pendants of gray Spanish moss, present a most pleasing and picturesque sight—one which no artist can reproduce on canvas. On these roads some of the most important automobile races ever held have been run.



SPOTSYLVANIA COUNTY, VIRGINIA, BEFORE

This is the type of road that is proving a terrible liability in the business of nation-building



SPOTSYLVANIA COUNTY, VIRGINIA, AFTER

And here is a real asset, not only to the farmer who uses it every day, but to all the people who buy that farmer's produce one way, and 430 motor vehicles and 12 wagons in the other direction. A 16-hour period over the Russell road, also in Alexandria County, produced only 2 horse-drawn vehicles and 104 motor-driven cars going north, and 3 horse-drawn vehicles and 107 motor vehicles going south.

It would appear from these statistics that one can safely prophesy the early passing of the horse as a means of transportation on most of the principal roads of the country. Economically the horse is being relegated to the fields, for man's great friend performs useful service on the farm and doubtless always will.

If each automobile takes the place of a team of horses, the 4,250,000 cars now in use in the country would release 21,250,000 acres of land for the production of foodstuffs, since it has been shown by actual scientific tests that it requires five acres of land to support one horse per annum and only three acres per man. This released land would therefore supply the needs of 14,000,000 men—a total in excess of the forces employed in the present war by all the Allies.

GOOD HIGHWAYS PROVIDE A MEANS OF NATION-WIDE INTERCOURSE

While the commercial aspect of road-building in relation to the transport of produce from farm to market and merchandise from factory to consumer properly demands great consideration, the fact should not be overlooked that road travel presents social advantages which are as essential to the development of a nation as is the accumulation of dollars. An intimate knowledge of a man's own State, such as is gained by road travel, makes for the betterment of citizenship generally. The man who visits adjoining States has brought to his attention the needs of other sections of the country, and inevitably his viewpoint assumes a national character.

Most of our States have scenic attractions that would cause any European country possessing them to invite the whole world to come and see; yet how few, when you consider the vastness of such assets of our country, are accessible by road; and while it is true that, viewed entirely from a dollars-and-cents standpoint, some of our highways might not be considered commercially important, their construction is essential if American citizens are to enjoy the beauties which Nature provides; and to be a bigger and broader people we must get close to Nature now and then.

AS ESSENTIAL TO A NATION'S PROGRESS AS POPULATION

In comprehensive transportation plans it is now essential that highways be given equal, if not greater, consideration than rail lines. Main arteries must accept the multiplying traffic of the tributary roads, which means rugged construction and systematic maintenance.

Just as every county should have north-south and east-west connections with neighboring county seats, each State should have interstate communication with adjacent capitals and large centers of population, until a truly country-wide road circulation for all purposes is possible.

That the Federal Aid Road Act must produce real results in order that the National Government shall continue its highways coöperation with the several States, is a fact which must be apparent to any student of transportation problems. This plan will collapse if the money supplied from the federal treasury is expended by the States in such manner as to leave indefinite evidence of this much needed partnership. Such practice would give those who oppose the federal venture forceful argument for its discontinuance.

The Secretary of Agriculture deserves much commendation for his insistence that the federal money shall be spent upon highways which enter into the creation of State road systems. Not a few of these roads have a military significance; all of them have to do with food prices.

It is incumbent upon the States to pursue a policy which shall demonstrate that federal funds are not wanted for local road-building, but are to be employed in highway construction which has to do with the ultimate establishment of a national system. This means that every county in a State cannot be given small sums from the federal appropriation, the expenditure of which would leave scarcely a trace of highway benefit.

The average man gives his first thought to his immediate locality, but in this age the scope of his understanding must extend over his State, then encompass the entire country, and finally he must realize that the United States is now a participant in the international arena, playing a commanding part. Such a rôle is possible only when a large majority of the people can sense our changed status in regard to the destiny which awaits the greatest republic of all—a republic in which all citizens recognize that no longer can the individual live for himself alone, and that the only policy to pursue is one of practical altruism, whether it has to do with individuals, municipalities, States, or nations.

IN FRENCH LORRAINE

That Part of France Where the First American Soldiers Have Fallen

By Harriet Chalmers Adams

THIS is the story of my journey to Nancy, Lunéville, and Gerbéviller, in Lorraine—that part of France where the first American soldiers have fallen.

I entered the French military zone as a war correspondent, equipped with a magical little yellow book which carried my photograph and the facts about my nationality, place of birth, magazine affiliation, and residence at home and in Paris. It had ushered me safely past innumerable gendarmes and sentinels on the way to Compiègne and Rheims, even to front-line trenches in Champagne; now it brought me to Nancy, in northeastern France, the most beautiful town in the Republic, capital of historic Lorraine.

On this particular trip the passport permitted a traveling companion, so an American girl engaged in Paris war work went with me. This was her first glimpse of that mysterious precinct known to few civilians beyond its guard-girded borders—"The Military Zone."

This zone, extending 500 miles, from Flanders to Switzerland, stretches south nearly to Paris, taking in the towns we passed en route to Nancy—Meaux, Chateau Thierry, Épernay, Chalons, Révigny, Bar-le-Duc—all gateways to the front. This is the road the Americans have followed on their way to the trenches.

It was a momentous ride by rail to Nancy. In the gray mist of early morning the great Paris Gare de l'Est was thronged. There were trench-worn men, coated with mud, just back from the front, relaxed and hungry, their arms around wives and sweethearts. There were grave-eyed men, in clean, faded uniforms, starting out again after their six days' leave. I can never forget the faces of the women with them. No tears, but they looked as Joan of Arc might have looked ten minutes before she was burned at the stake.

TRAVELING COMPANIONS ON THE TRIP TO THE FRONT

One soldier led a snappy fox-terrier to wage war on the rats in the dugouts. Another was festooned with loaves of bread. Standing in line with us, awaiting inspection of passports, was a young American ambulance driver on his way to the front. His uniform stood out against the mass of horizon blue—vanguard of our khaki-clad hundreds of thousands who will march the bloody road.

We two were the only women on the train. The soldiers dropped off at every station. We passed the River Marne, tree-bordered, grasses swaying in its tide, and skirted the famous battlefield. From the railroad the peaceful hay-stacked fields, vine-covered walls, and russet-tiled roofs showed no trace of that mighty struggle; but I had covered the country by automobile and had seen modern roofs over shell-torn homes. I had seen the graves among the new-mown hay—white crosses with the tri-color; black crosses with the letter "A" for *Allemands*. And near by a sign for the farmer to heed: "In agriculture, respect the graves of the dead."

Near the town of Meaux there is an imposing marble monument which marks the site where the guard of Paris fell. There are holes in the cemetery wall through which they thrust their rifles, those heroes who rushed out from the capital in more than 1,000 taxicabs on that fateful September day.

We passed Épernay, the door to Rheims, where a battalion was on the march, and came to Chalons. Here many officers left the train to motor to Verdun—spick and span, with blue cloth puttees to match their uniforms, all carrying canes. The American ambulance driver left with them.

"I don't know where I'm going," he told us, "but I'm on my way. I'm sure to be on the right road if I'm helping the French."

A GLIMPSE OF A TENTED HOSPITAL

Near Bar-le-Duc hundreds of tired soldiers were resting at farm houses, and there was a solid mile of motor trucks, camouflaged in wavy colors and laden with munitions. At the station ten Missouri pack-mules had their heads out of box-car windows. A group of zouaves sat on the platform winding strips of khaki cloth around their red fezzes. They intended to be on the safe side.

We came to a vast tented ambulance hospital under the spreading branches of trees—trees filled with mistletoe, suggestive of Yuletide joy; and here was pain. We entered a hilly country. Passports were again inspected. We were in French Lorraine.

A famous Frenchman has called Lorraine "the most beautiful burial ground in the world." Flanders is a mud-hole and Champagne is all chalk, but Lorraine is an enchanting land, with harmonious hills and noble trees and fern-bordered streams rushing to the Rhine. The quaint villages which escaped the German onslaught perch on the hillsides like Christmas toys and the humblest vegetable patch is a garden.

But there are tombs in every flower-strewn field, for no region on earth has suffered more from fire and sword. All the races of Europe have coveted Lorraine since the days of the Romans. When the Kaiser waited in the forest with his 10,000 cavalrymen for word from his victorious army that he might cross the frontier and make a triumphant entry into Nancy, he was but following in the footsteps of earlier barbarians who have swept across the Rhine.

WHERE JOVINUS DEFEATED THE TEUTONIC HORDES SIXTEEN CENTURIES AGO

Near the highway, not far from the German border, is a memorial shaft which reads: "Here, in the year 362, Jovinus defeated the Teutonic hordes." And here the Huns were driven back by the French in September, 1914.

It was late afternoon when we reached Nancy—eight hours from Paris. An official detained us half an hour in his office, while the passport was again scrutinized. Going outside the station to look for a cab, we saw a mass of ruins across the street—all that was left of a once popular hotel. Many other ruins stared at us on the way to the Place Stanislas.

The proprietor of the Grand Hotel on the Place said he could give us rooms and we would find a restaurant across the way. He had no "cave," he explained, and there were bombardments. There *had* been a cellar, but it had been out of commission since the house next door was hit. We asked the maid who showed us the rooms when the last bombardment had occurred.

"Sunday," she said, "or maybe it was Monday. They come so often I lose count."

"Why do you stay here?" I asked.

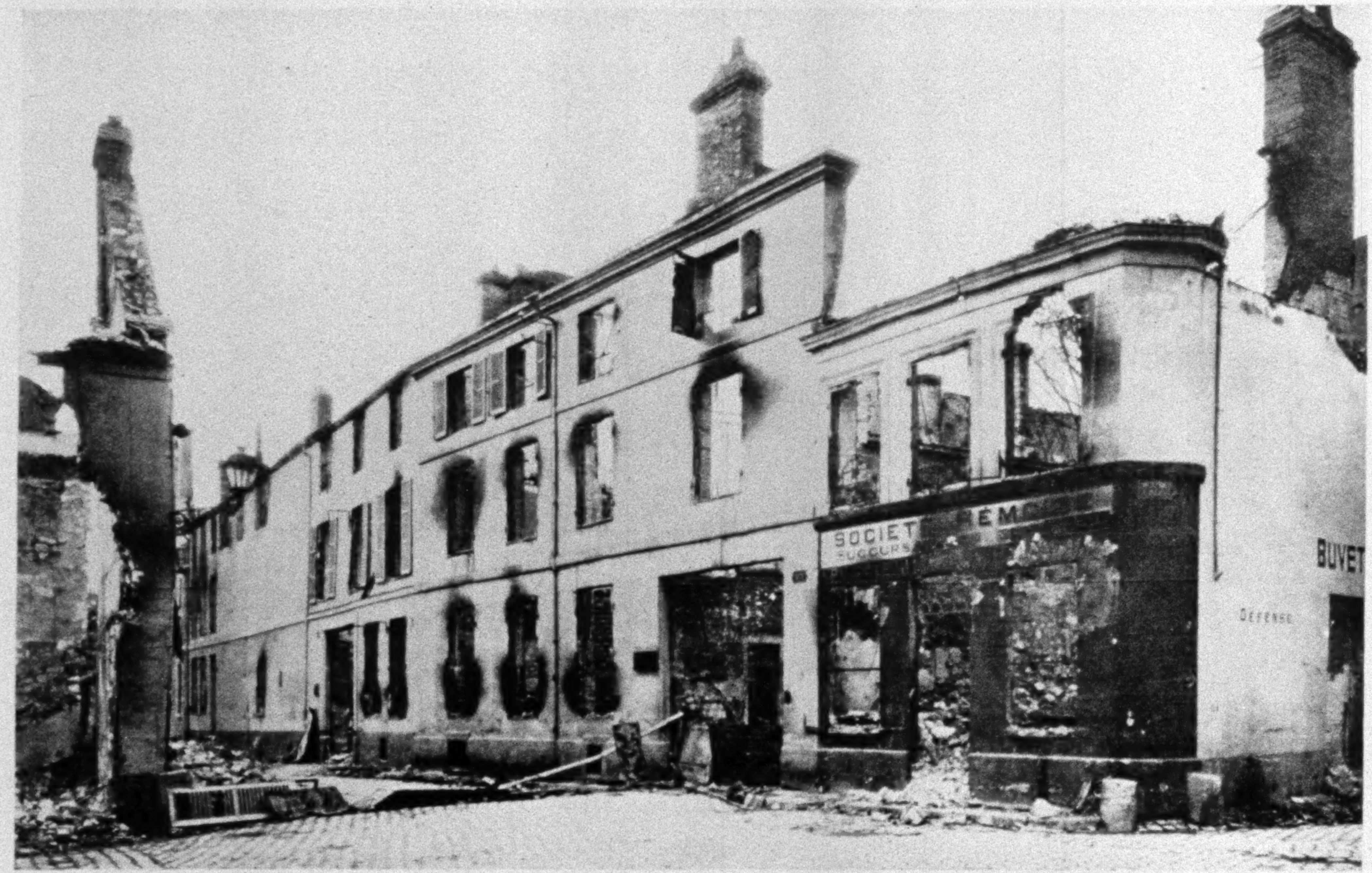
"Because I have four brothers in the trenches, and we all must be soldiers," she replied.

We sent a letter of introduction to the

Photograph from Harriet Chalmers Adams

HOME COMFORTS WELL BEHIND THE LINES

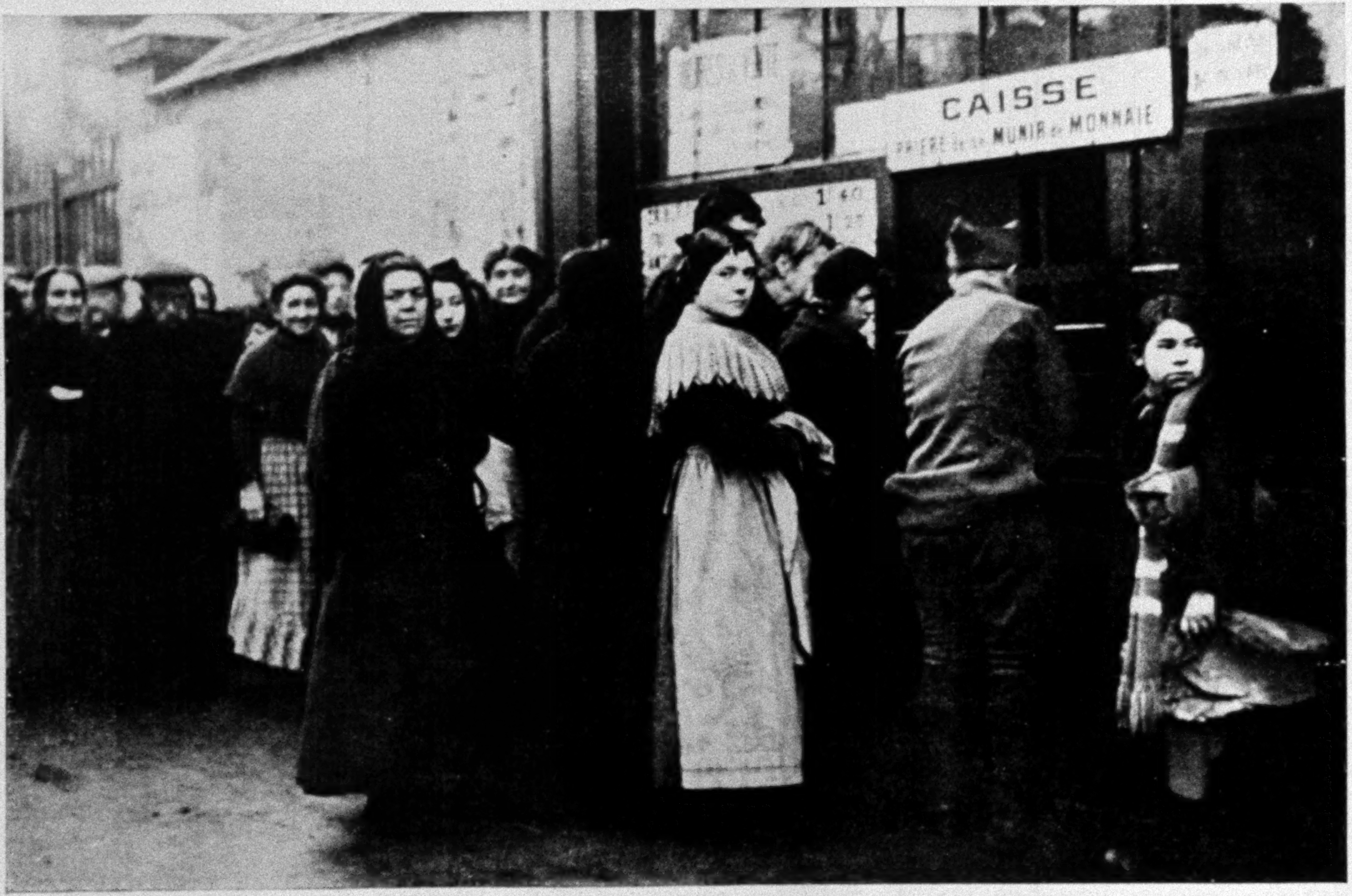
"Flanders is a mud-hole and Champagne is all chalk, but Lorraine is an enchanting land, with harmonious hills and noble trees and fern-bordered streams rushing to the Rhine"



Photograph from Harriet Chalmers Adams

AFTER THE BOMBARDMENT

"Nancy is a little more than five miles from the front and is bombarded by the Boches' most powerful guns, which have a 20-mile range. Their shells come mainly at night, when there can be no warning. In daylight French aeroplanes hover guard over the city to watch for the distant white cloud, which heralds the oncoming shell. The tocsin sounds and 100,000 inhabitants scurry to the cellars."



WORKING WOMEN OF FRANCE WAITING FOR THEIR RATION OF COAL

In the more populous districts of Paris the French Government has allowed each one of the poorer families a certain amount of coal daily, and a line of women with bags and baskets—the wives or widows of the soldiers of France—forms before the depots at the prescribed times

Préfet of the Department of Meurthe and Moselle, and an hour later M. Mirman called—a splendid man, bearded and in uniform. All town officials wear uniform in the military zone. At the beginning of the war M. Mirman was Minister of Public Health in Paris. Being past military age, he volunteered for any service, and was sent to Nancy, then in great peril. He was the first to reach the murdered villages in the foothills of the Vosges, where he buried the dead and comforted and sustained the frantic survivors. On his breast is the decoration which France gives to her bravest.

NANCY WORKS ON IN SPITE OF BOMBARDMENTS

Nancy, he told us, is a little over five miles from the front, and is bombarded by the Boches' most powerful guns, the 380 millimeter, which have a twenty-mile range. The shells come mainly at night, when there can be no warning. In daylight French aeroplanes hover guard over the city to watch for the distant white cloud which heralds the oncoming shell. The tocsin sounds the alarm and the 100,000 inhabitants scurry to the cellars. On every house with a cellar a great cross is painted, the double cross of ancient Lorraine.

Few people have left town. Trams are running; shops are open. Nancy has her work to do and keeps at it doggedly. Also, she houses and feeds 3,000 refugees, mostly old women and little children, who have crept over the fields in terror from their cannonaded homes still nearer the German line. The number increases.

"Tomorrow Madame Mirman will take you to see the refugees," the Préfet told us, "and we hope you will dine at the préfecture in the evening."

In pitch darkness we two, strangers to the 380's, groped our way across the Place and felt for the door of the restaurant. We entered a well-lighted room, all warmth and cheer. The windows were heavily curtained that no gleam of light might be detected by prowling enemy air-craft. Many officers were dining; the food was excellent, the prices reasonable. This condition I found throughout France, the marvel of every American who has been over during the war. A tall, straight man, with iron-gray mustache, rose to leave the room; all the others stood up and saluted.

At midnight I opened my window and peered into inky gloom. The air was heavy with danger; the arc of a searchlight pierced the sky, for an instant illuminating the shrouded scaffolding protecting a statue in the center of the Place, that of Duke Stanislas Leczyski, father-in-law of Louis XV. . . . Not a footstep on the street below. I heard a distant cannon boom.

Next morning we went for a walk. Few cities in Europe are as architecturally beautiful as this ancient capital of the Duchy of Lorraine, the Land of Lothair, named after a grandson of Charlemagne, united with France in 1766. Each of a hundred gates and façades is worthy a pilgrimage to Nancy. In the cathedral many women in black were praying before lighted candles. The stained glass windows were broken and mended with paper. Three houses across the street were in ruins. Yet the park near-by was the picture of peace. Shafts of sunlight slanted through the chestnut trees and a black-robed priest sat on a bench in the shadow telling his beads.

AMONG THE REFUGEES FROM HUN-DESTROYED VILLAGES

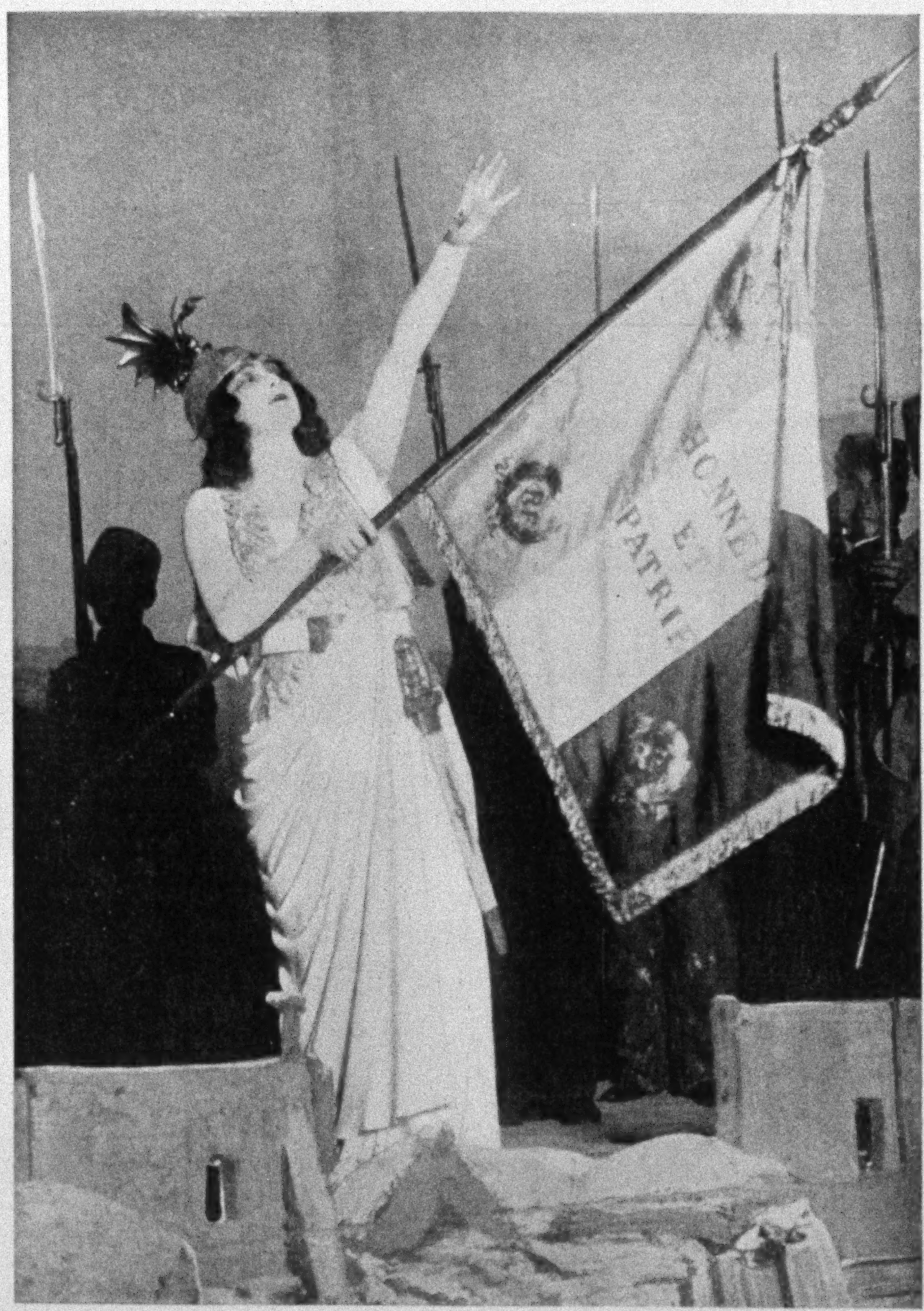
We went to the narrow old chapel where 84 Dukes of Lorraine are buried. It was closed, but we rang a bell and a woman in black let us in. There is a fine Rubens over the altar. The tombs are protected by sandbags. The glass of windows and dome is shattered and any moment the maniacal Hun may send a shell to demolish the whole. On a marble slab near the altar we read:

"Here Marie Therese Charlotte of Austria, September 11, 1628, came to pray.

"Here François II said, 'By blood in heart I belong to Lorraine.'

"Here Marie Antoinette, May 17, 1770, came on her way to Paris to marry Louis XVI and knelt at this altar."

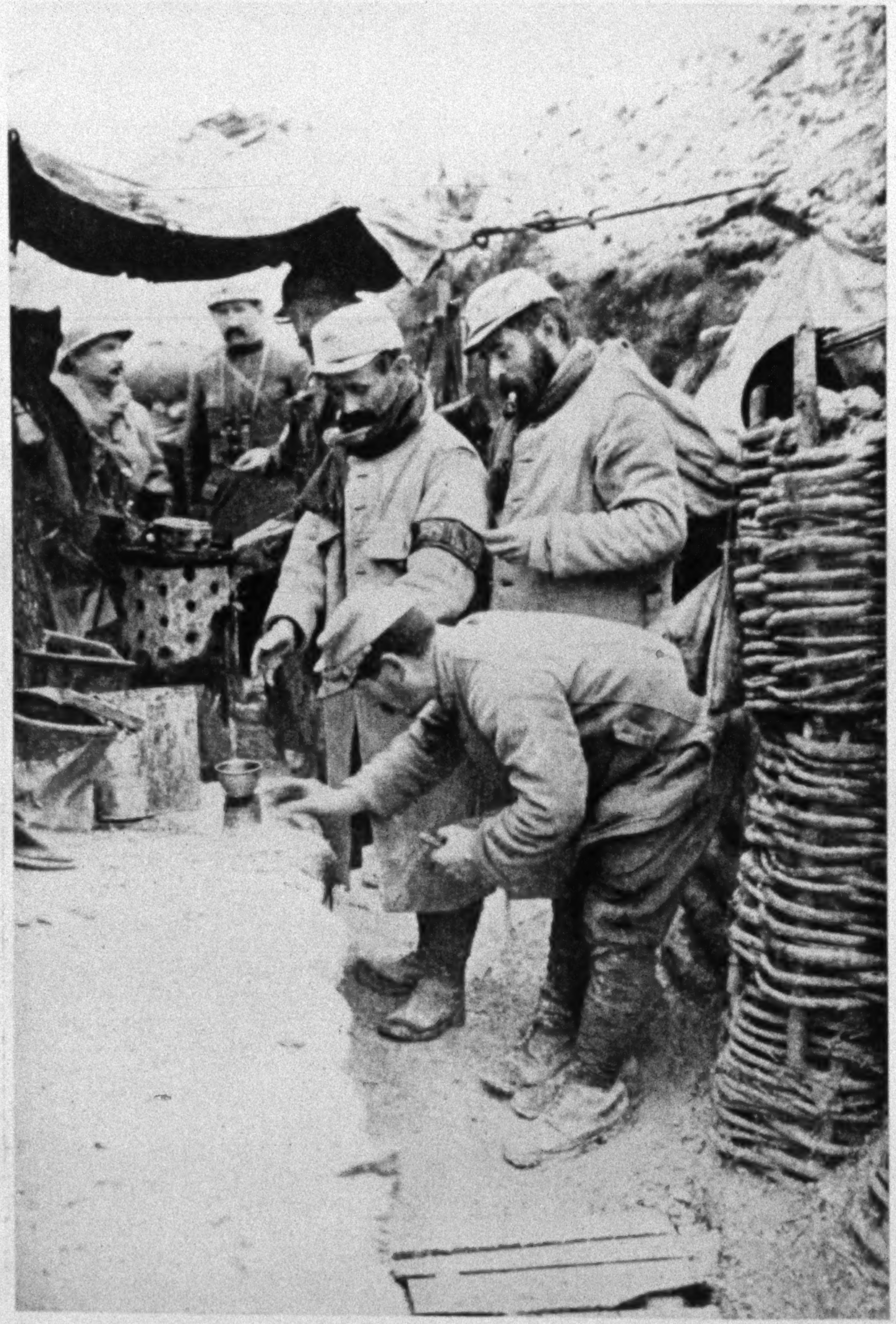
The shrine of Austrian royalty! Here Elizabeth, wife of the late Emperor



Photograph from Harriet Chalmers Adams

"UP, SONS OF FRANCE, THE CALL TO GLORY!"

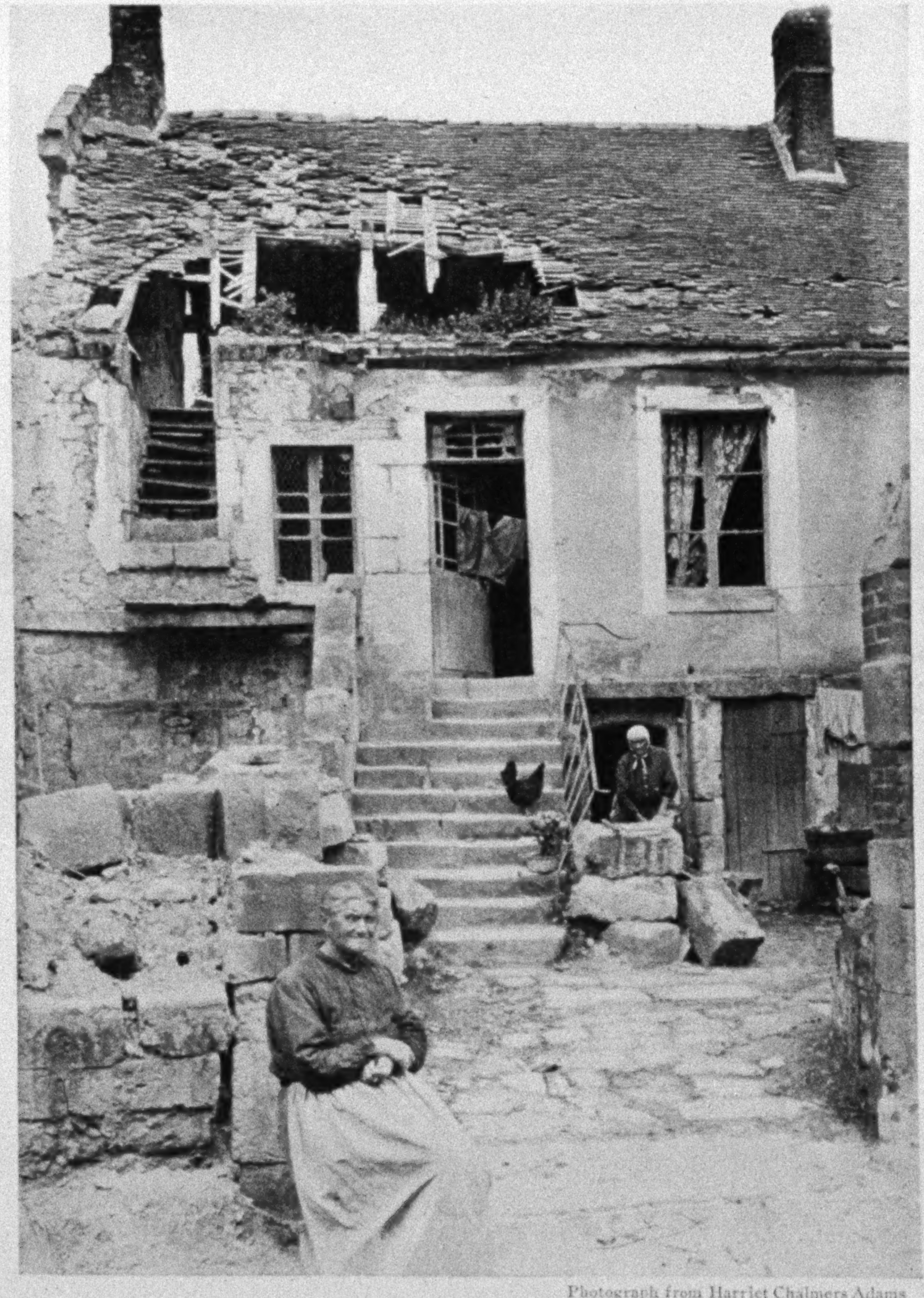
Marthe Chenal, the great French opera star, singing the immortal *Marseillaise*, written in Strassburg, in 1792, by Rouget de Lisle, at the home of an Alsatian patriot



Photograph from Harriet Chalmers Adams

WARMING WINE IN A FRONT-LINE TRENCH DURING A QUIET HOUR

Whereas too many cooks may spoil a broth, here the problem lies not in the cooking, but in the distribution of a gill of grape juice among three collaborating chefs



Photograph from Harriet Chalmers Adams

GRIM PROOF OF WAR'S TOLL

Undismayed by the loss of their loved ones, by the wrecking of their homes, or by the pinch of hunger and the blight of frost, these old women contribute their bit toward the fighting efficiency of undaunted France—they make sandbags for the trenches. On the way to the front our boys pass these shell-riddled homes every day.

Photograph from Harriet Chalmers Adams

WHEN PEACE AGAIN BROODS OVER EUROPE THESE LOVELY DAUGHTERS OF ALSACE WILL BE CITIZENS OF FRANCE

The wreaths of immortelles some day will be removed from the statue of Strassburg which stands in the Place de la Concorde, in Paris, symbolizing the grief of France for her lost provinces of Alsace and Lorraine. In that day the great Republic will take to her arms again her Alsatian children who for nearly half a century have wept for La Patrie.

Francis Joseph, prayed that she might rest. Even a savage would revere and preserve the ancestral tomb of an allied tribe!

Madame Mirman motored us to the barracks on the outskirts of the city, where the refugees from the Hun-destroyed villages are housed. We found as many as ten in one room—grandmother, mother, and children. With food and stove supplied, this was luxury compared with life in their ruined village, but with the shortage of coal throughout France this winter, there is great suffering, I fear, in those bleak barracks in Nancy.

The old women make sandbags for the trenches. One told me she had made 80 in a day. The children attend school, the boys learning trades, the girls domestic science, that they may look out for themselves later on, as most of them are orphans. An American fund in Paris hopes to send a Christmas present this year to every one of these 2,000 homeless children. I asked them to sing and 50 sad-eyed little ones stood up and piped, "Aux morts pour la Patrie." I could not keep back the tears.

I talked with a young woman who was very ill and learned she had been at work in a munition factory in another part of France. I have seen as many as 6,000 women in one of these vast arsenals, and frail girls carrying weights which only strong men should lift. Yet I glory with them in their sacrifice. *The women of France have shown us the way.* Untrained women who have never before rolled a bandage face unflinchingly the most grewsome wounds in their hospital service: to release men for the trenches they perform the most menial tasks, such as removing town garbage. Service and Unity. This is the keynote of France.

SCENES IN A CELLAR DURING A BOMBARDMENT

We left the children playing in the great open square of the barracks and motored back to town. Our automobile was driven by a soldier-chauffeur. I had just remarked that this was the most perfect weather I had known in France when the tocsin shrilled its warning. The soldier stopped the car, jumped off and helped us out and we all bolted for the nearest house with the big Lorraine cross. An old man opened the door and many other people rushed in with us. We had barely reached the cellar steps when the first crash came.

I have never heard anything as ominous as the sound of those Titanic shells, each crushing out homes and human beings. There were 27 of us in the cellar, our aged host and the soldier the only men. One little boy held a dog in his arms and a girl of ten grasped a cage with a pet canary.

We sat on boxes. There was a light, and over in one corner I saw a keg and a sack, evidently containing water and food; and a pickax. How, I wondered, could we dig our way out with that one pickax, should the house be struck! There was an agonized expression on the faces of some of the women whose children were not with them. Madame Mirman tried to lighten the strain by telling how her baby girl had wakened, as they carried her down to the cellar the night of the last bombardment, looked about and said, sleepily, "Encore! The bad Boche!"

By my wrist watch the shells fell every seven minutes. The bombardment lasted three-quarters of an hour, and we remained in the cellar for some time after the last crash, which sounded much nearer than the others. We wanted to be sure the French guns had temporarily silenced the foe. In the post-office, later, I had a near view of a shell of the 380—a mammoth affair; a little larger, but not as pointed nor as graceful in outline as the French 370 on exhibition beside it.

When we reached the street, boys were already flying kites, hoping to rival the planes overhead. Lorrainese children have become accustomed to bombardments. Once 90 shells came in one day. And, too, there are sometimes shells dropped by the wicked Taubes, which dodge like hawks among the aircraft of the tri-color.

THE EVERY-DAY STORY IN BLEEDING LORRAINE

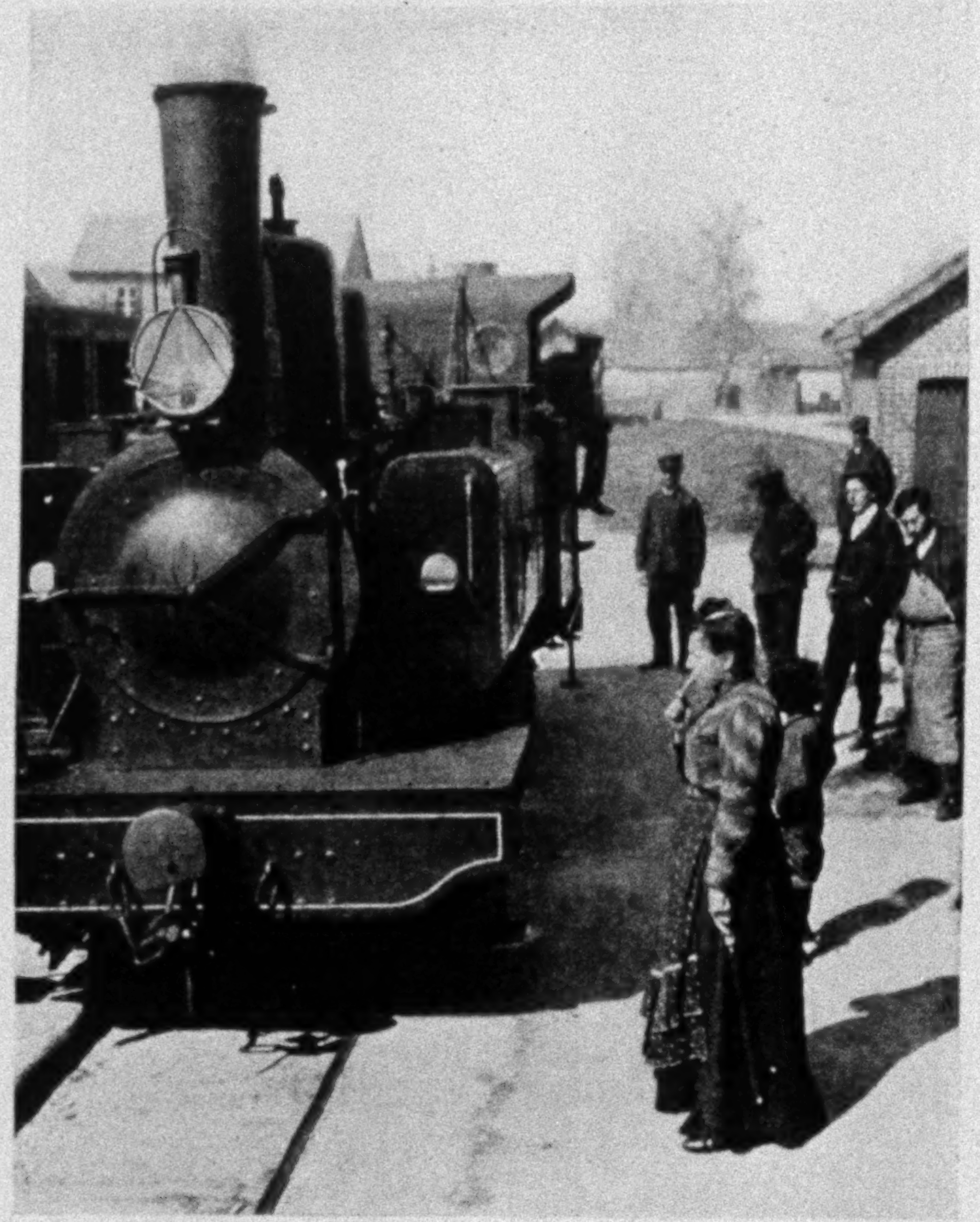
We visited the hospital. Few of the injured had survived. In one bed lay a woman, whose moans were heartrending.

"It isn't her physical suffering alone," the Sister of Mercy told us; "it is her mental torture. She saw her four children die in the flames."

By the next bed knelt a man in trench-stained uniform, crepe on his sleeve. His face was buried in the waxen hand of a little golden-haired girl. "He is just back on leave," they told us, "and she will not live the day out." All the others of his family had been killed outright. This is the every-day story in bleeding Lorraine.

It was a brave dinner at the Mirmans. The Colonel of Lorraine was there; on his breast the Military Cross, the Cross of the Legion of Honor, and the "Croix de Guerre," with five palms, which must be about the record in "citations."

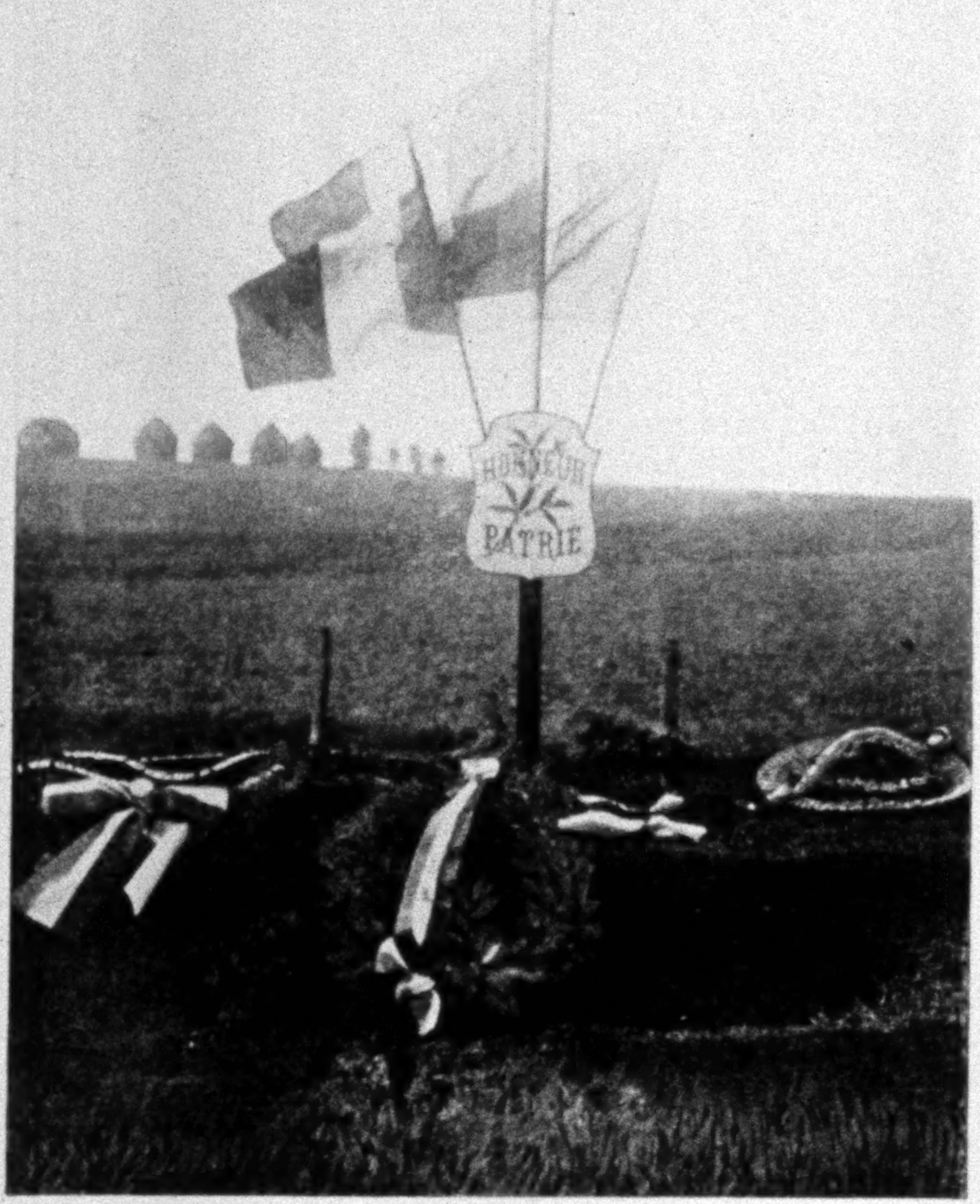
"However on earth did he win them



Photograph from Harriet Chalmers Adams

SHE IS SERVING HER COUNTRY AS A STATION-MISTRESS

The women of France are playing an important part in supplying the armies at the front by accepting employment on the railroads as ticket agents, conductors, freight clerks, and train dispatchers.



Photograph from Harriet Chalmers Adams

ON FAME'S ETERNAL CAMPING GROUND

"There are tombs in every field, for no region has suffered more from fire and sword. All the nations of Europe have coveted Lorraine since the days of the Romans. On the graves wild flowers are blooming—red poppies, blue cornflowers, white daisies. Even in death, Nature in France greets her soldiers with the tricolor."

Photograph from Harriet Chalmers Adams

FORTY THOUSAND FRENCH WOMEN ARE WORKING ON TRAINS, RAILROADS, AND STREET-CAR LINES

And they go about their work cheerfully, finding in helpful service to their country a panacea for the sorrows and privations which they undergo

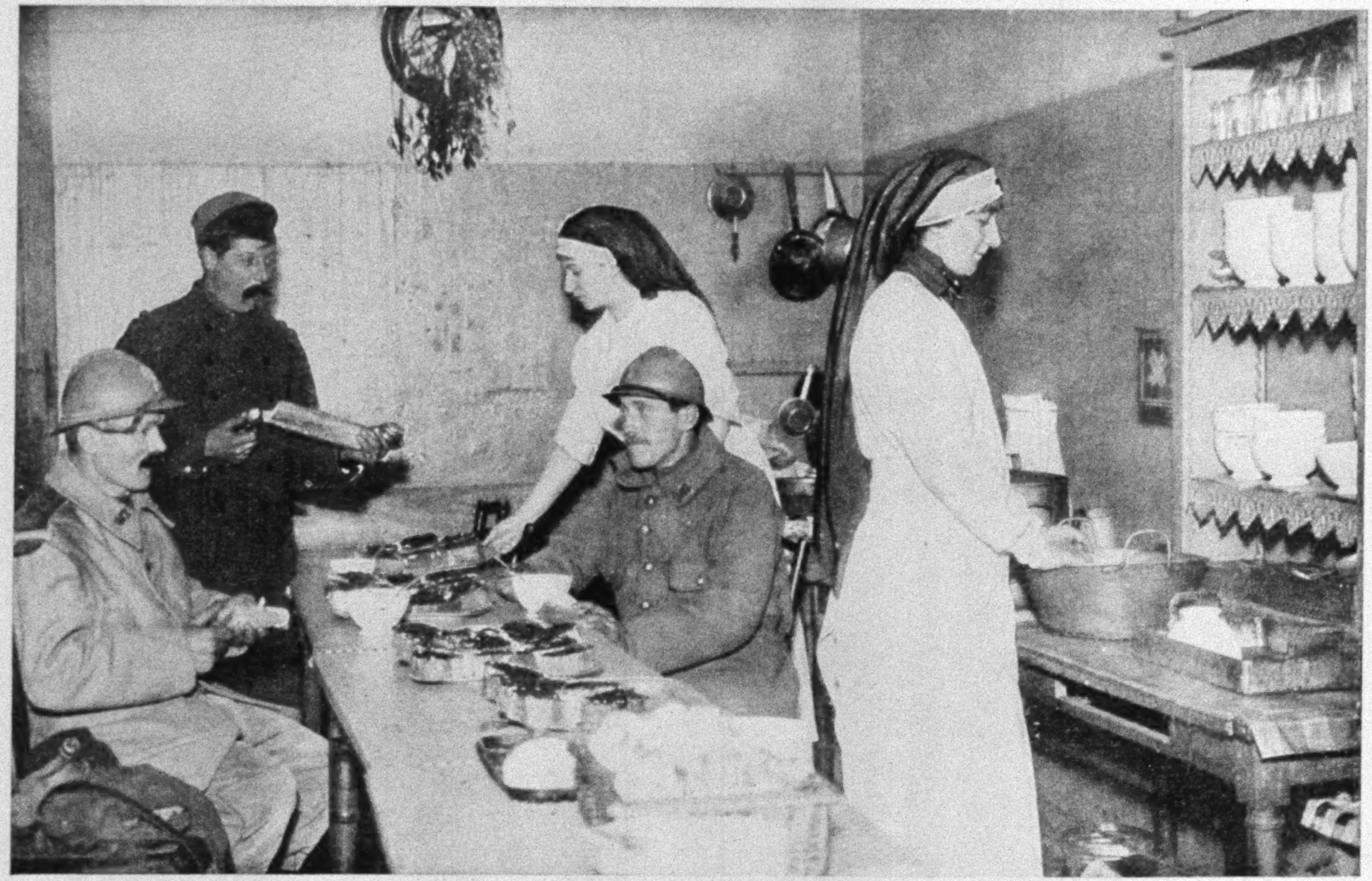
all?" I whispered to my fellow-countrywoman.

"I think he must break all rules—go over the top and call for his men to follow," she suggested, with an admiring glance.

Certainly this keen-eyed, clear-skinned colonel was the most soldierly man I met in France, where all the officers are splendid, in their caps as red as the battlefield and their uniforms as blue as the sky. The Commandant of Verdun was another dinner guest; and a New Yorker, just arrived in Nancy in the interests of the Lafayette Kit Fund, which supplies warm underwear and "smokes" to the *poilus*.

"One of our guests may be a little late," the hostess said; and he arrived a few moments later—a young lieutenant, in dark blue, with the insignia of the bird on his sleeve. He had flown over from Paris with a message and would fly back after dinner.

XUM

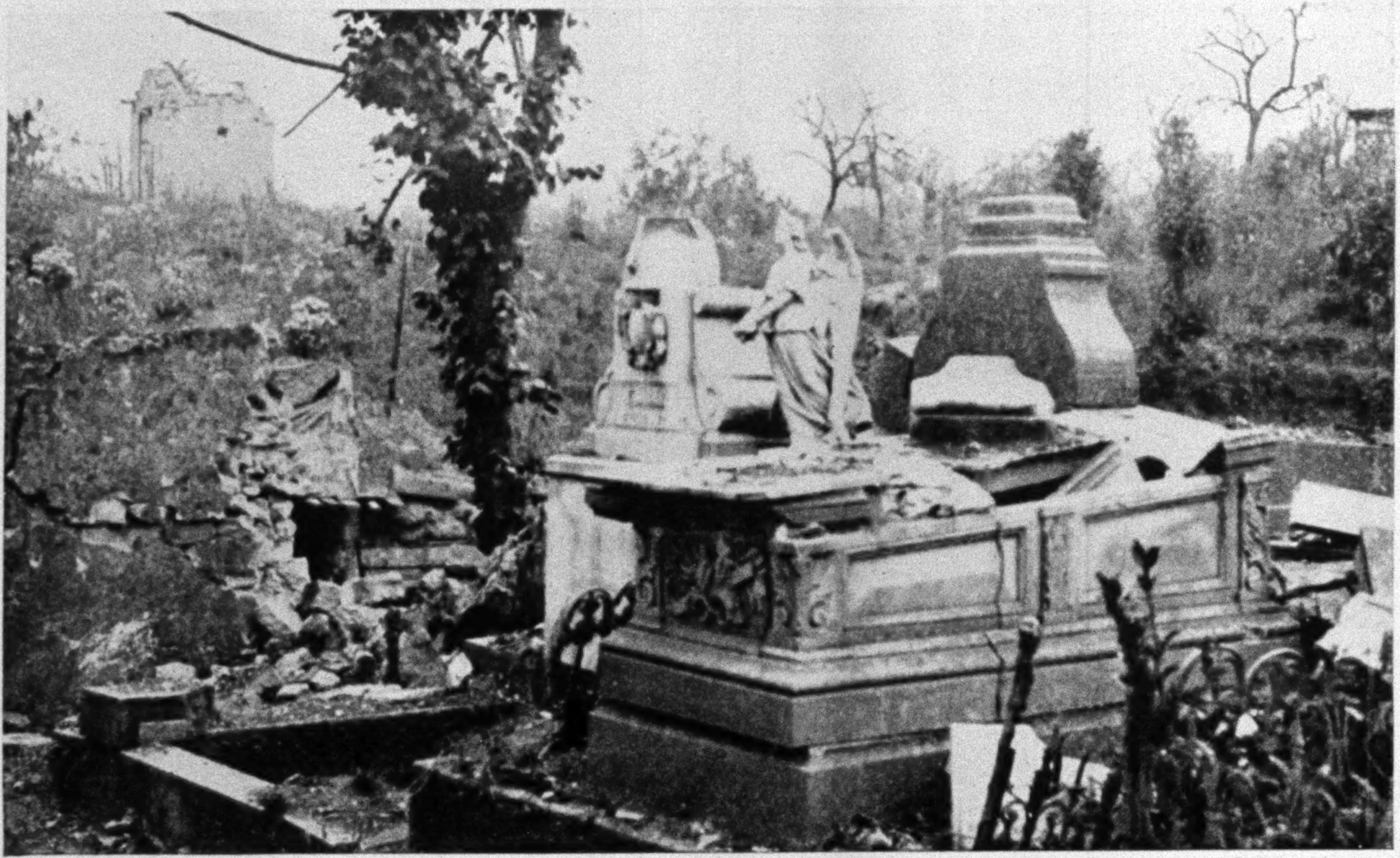


Photograph from Harriet Chalmers Adams

THE GENTLEWOMEN OF FRANCE SERVE IN CANTEENS AS WELL AS IN HOSPITALS

Photograph from Harriet Chalmers Adams

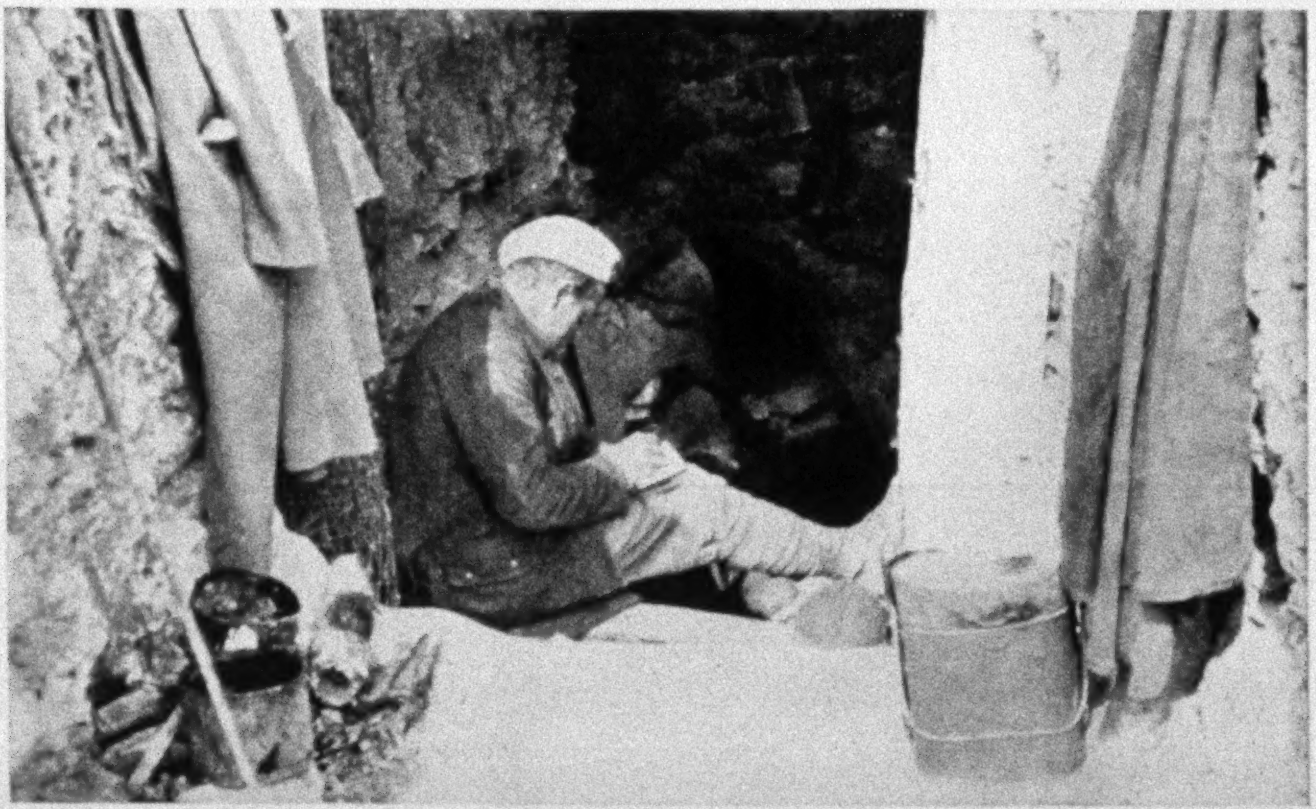
"ALLIES"



Photograph from Harriet Chalmers Adams

THE ANGEL DEFIED THE HUN: FRENCH CEMETERY AFTER A GERMAN BOMBARDMENT

A famous Frenchman has called Lorraine "the most beautiful burial ground in the world"



Photograph from Harriet Chalmers Adams

WRITING HOME: A TYPE OF CAP NOW USED BY AMERICAN SOLDIERS AT THE FRONT

The steel helmet, worn by our men, fits over the cap

It was fascinating to hear of the battle of Nancy from men who had made history. They painted a vivid picture. The Prussian army was ordered to take the city at any cost. The Kaiser himself was waiting to ride, with banners flying, to the Place Stanislas.

THE BATTLE OF NANCY

If the hills of Amance were taken, the road was clear. On swept the Huns. "Deutchland über Alles," intoned by thousands of voices, blended with the hurricane of artillery fire. Unprepared France threw the shells of her 75's and countless precious lives against the foe. By the grace of God, the French held Amance. This was the worst day the Kaiser ever had. If he had won Nancy, he would have won Paris.

Next morning a messenger arrived, asking, in the Emperor's name, an armistice of 24 hours to bury the dead. It was granted. The French expected another assault, but the Kaiser returned to Berlin. When in his capital, by the way, he is within ten hours by express train of every point on his frontier with the exception of Alsace-Lorraine.

From a plateau beyond Nancy one can see on the far horizon the cathedral spires of Metz, capital of lost Lorraine. In plain view are the German villages near the frontier—the frontier since 1870. "The Boche," said our host, "is only a few minutes away by aëroplane."

In plain view from this plateau are the trenches in the vicinity of the Rhine-Marne Canal, where in the early morning of November 3 the Germans raided a salient held by American soldiers, and our first blood sacrifice was made in the front-line trenches in France.

There are many French towns that we will know better before the war is over. If you have not already made its acquaintance, let me introduce you to Lunéville. It lies southeast of Nancy in the foothills of the Vosges, within sight of those purple peaks which mark the southernmost point of the French trenches.

DESOLATION WHERE ONCE STOOD PROSPEROUS, HISTORIC LUNÉVILLE

Lunéville is a gray, industrial town of 20,000 souls, prospering before the war in its manufacture of railway carriages and motor cars, chinaware and chemical salts. A gorgeous château is all that remains of its former glory, when the dukes of Lorraine made it their playground. In their day this palace was gayer than Versailles, and its gardens were noted throughout Europe, serving Watteau's

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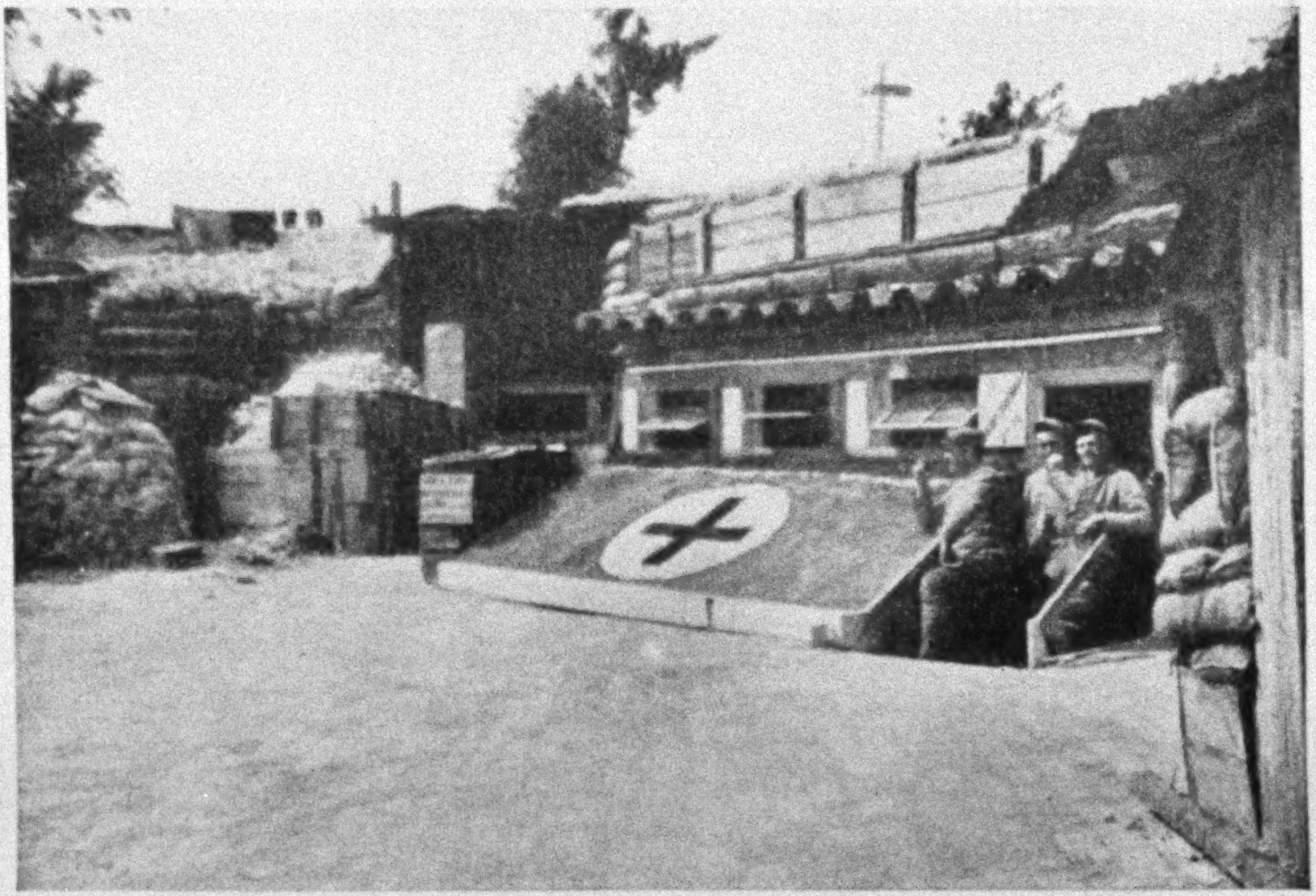


Photograph from Harriet Chalmers Adams

A FIRST-AID POST AT THE ENTRANCE TO FRONT-LINE TRENCHES

At the very gates to the inferno of battle wait the stretcher-bearers, ready to dash forth and rescue the wounded and dying. Here is pain, but here also are healing hands

pupils as a model when they painted the gorgeous fêtes of the Far East. The château is now occupied by the mayor, M. Keller, who played an important rôle during the German invasion of the town.

Madame Mirman motored us out to Lunéville. Although she is the wife of the préfet of this whole department and known by sight to every sentinel on the road, the automobile was halted every quarter of an hour for inspection of passports and information as to where we were bound.

In the fields women were mowing hay. I was reminded of a woman I had seen near Rheims. A shell struck a near-by haystack, but she kept on mowing.

We ascended a tortuous road to the summit of the hill of Léomont, where a decisive battle had been fought. There was a most comprehensive view, back over the plain of Nancy, north and east over the French front. In a hollow, at our feet, lay a ruined village which is now being restored through the generosity of a group of wealthy Californians.

From this hill to the one opposite, the battle had raged. We picked up fragments of French and German shells, and the soldier-chauffeur explained "which was which," one being bluer than the other. There were many graves on this hill, and above one I saw a soldier's tattered cap hanging on the little white cross.

"I placed it there over two years ago," Madame Mirman said, "when I came out with my husband. He buried the dead. We did not know the boys' names, but we marked each cross with the number of the regiment, wherever we could."

THE TRICOLOR BLOOMS ABOVE THE DEAD OF FRANCE

On the graves wild flowers were blooming—red poppies, blue corn-flowers, white daisies. Even in death, Nature in France greets her soldiers with the tricolor.

Lunéville shows the hoofmarks of the Hun, those terrible 20 days when the enemy was master of the city. The town-hall and the préfecture were destroyed, the industrial section burned, shops pillaged, homes looted, men and women murdered. Cultured people, like the Kellers, tell the story quietly; but their eyes have a dangerous gleam. "I would gladly have given my life," the mayor said, "if I could have spared my fellow-citizens those horrible atrocities."

Unarmed men fired on; an old woman run through with a bayonet; a mother driven insane at seeing her son stabbed and her daughter carried off by drunken soldiers—such stories are so common in the foothill towns of the Vosges that the very air is polluted. The birds in the château garden have almost forgotten how to sing since the Prussians passed that way.

But on this road there is an even sadder sight than grave, silent Lunéville. It is the skeleton of Gerbéviller, the Pompeii of France. Pompeii was wrecked by the might of God; this town by human hate. To reach the most spectral ruins I saw in all France, we crossed a bridge which will flame in history, the one held by the 75 chasseurs.

THE CHASSEURS WHO ARE TRAINING AMERICAN TROOPS

We have an especial interest in the chasseurs, for they have been training our American boys at the front. No soldiers of France are as picturesque as these sunburnt, fiery-eyed men of the Alpine and Pyreneean heights, who have left the stain of their loyal blood on every frontier they have touched. The Germans call them "the blue devils," and say they can run faster than the chamois, but it is the Boche who runs when they come his way. They are a merry care-free lot. I heard a story of one who fired in a kneeling position instead of lying flat on the ground. When asked by a fellow-soldier why he was so foolhardy, he explained that he had a bottle of wine in his pocket and it had no cork.

During the Battle of Lorraine, 75 chasseurs were posted at the bridge which leads to Gerbéviller. As the German column hove in sight they tore up the pavement, threw breastworks across the bridge, and stationed their machine guns. This was in the early morning. At four that afternoon a lone chasseur fired the last round of ammunition and slipped away to join his companions, 51 of whom had survived. For eight hours 75 Frenchmen had held off 12,000 Germans.

Angered into fury by the machine guns, which had held them so long at bay, the Prussians entered the town, firing and burning every house they passed. Like many French towns, Gerbéviller was built on one long main street, with lanes leading from it. Only stark walls stand. Oil was poured into the cellars to make more of a blaze. If the people remained in the houses, so much the better. . . .

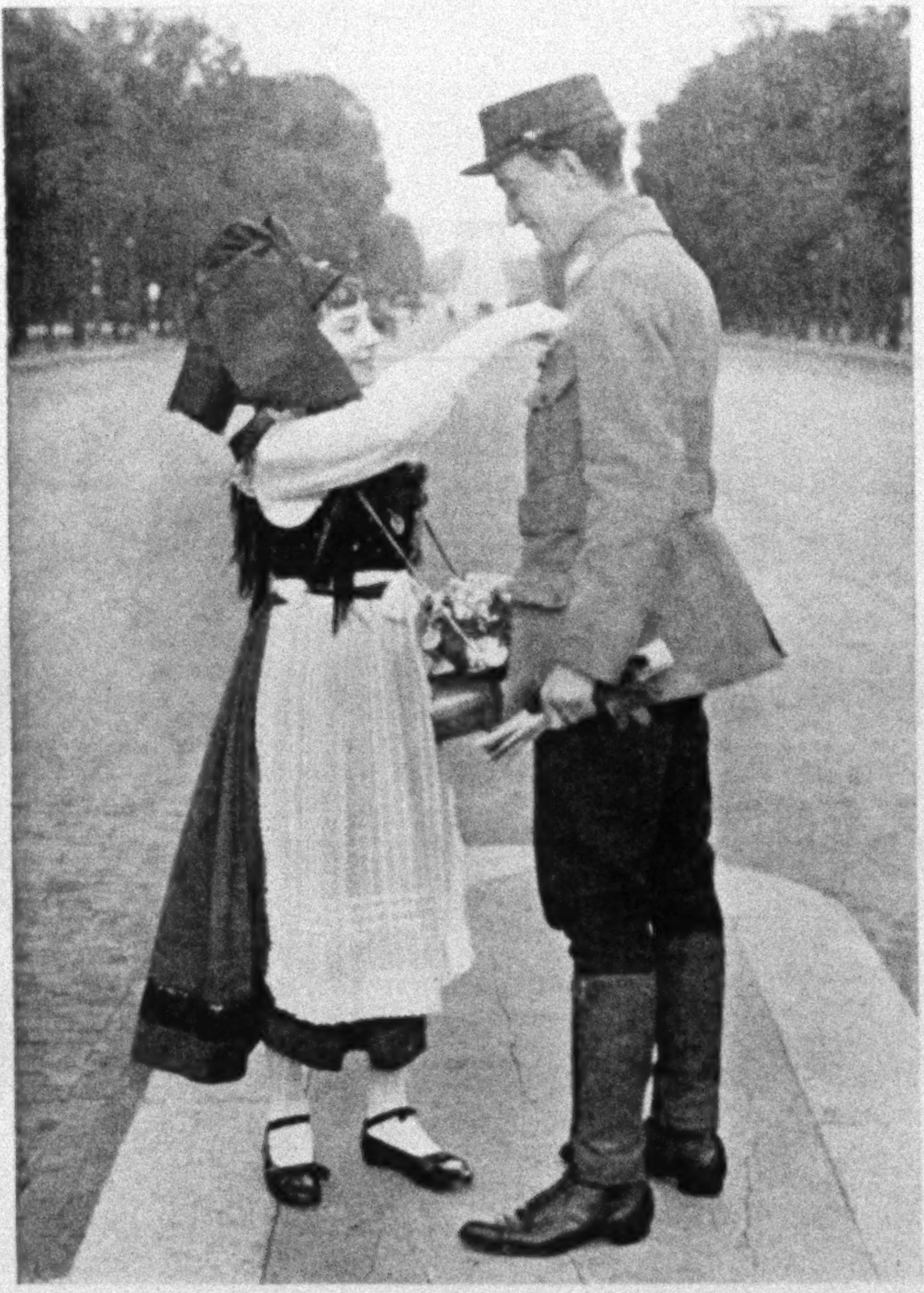
SISTER JULIE, A HEROINE AMONG HEROES

The refugees have crept back. On a mangled wall I saw the sign: "Café of the Ruins." A girl in black was placing a bunch of wild flowers before the broken image of the Virgin on the wall of what was once a church. Only one building in the town stands—the humble little hospice which shelters Sister Julie, one of the great heroines of France.

We rang the doorbell and a Sister of Mercy ushered us into a narrow hallway, and then into a little sitting-room with oil-cloth on the table, and a few stiff-backed chairs. There was a battered organ and an ancient chest and two pictures of religious subjects on the wall. I can see every detail even now, for this was the setting of the woman who defied the whole German army.

She sat upright in her chair with hands crossed—a short, plump woman past 60, with bright hazel eyes, rosy cheeks, and a firm mouth. Sister Julie, whose name before she was Mother Superior was Madame Amélie Rigard, has a most authoritative air. Beneath the cape of her black habit gleams the cross of the Legion of Honor, pinned there by the President of the Republic, who, with many other dignitaries, made a pilgrimage to this remote village to decorate this little old woman.

Sister Julie speaks rapidly, with an occasional gesture. She told us of the 75 chasseurs—how the first to be wounded were brought to her house. She took off the ammunition belts and sent them back by a nun to the bridge. When the houses



Photograph from Harriet Chalmers Adams

A FLOWER OF FRANCE DECORATES ONE OF HER COUNTRY'S DEFENDERS

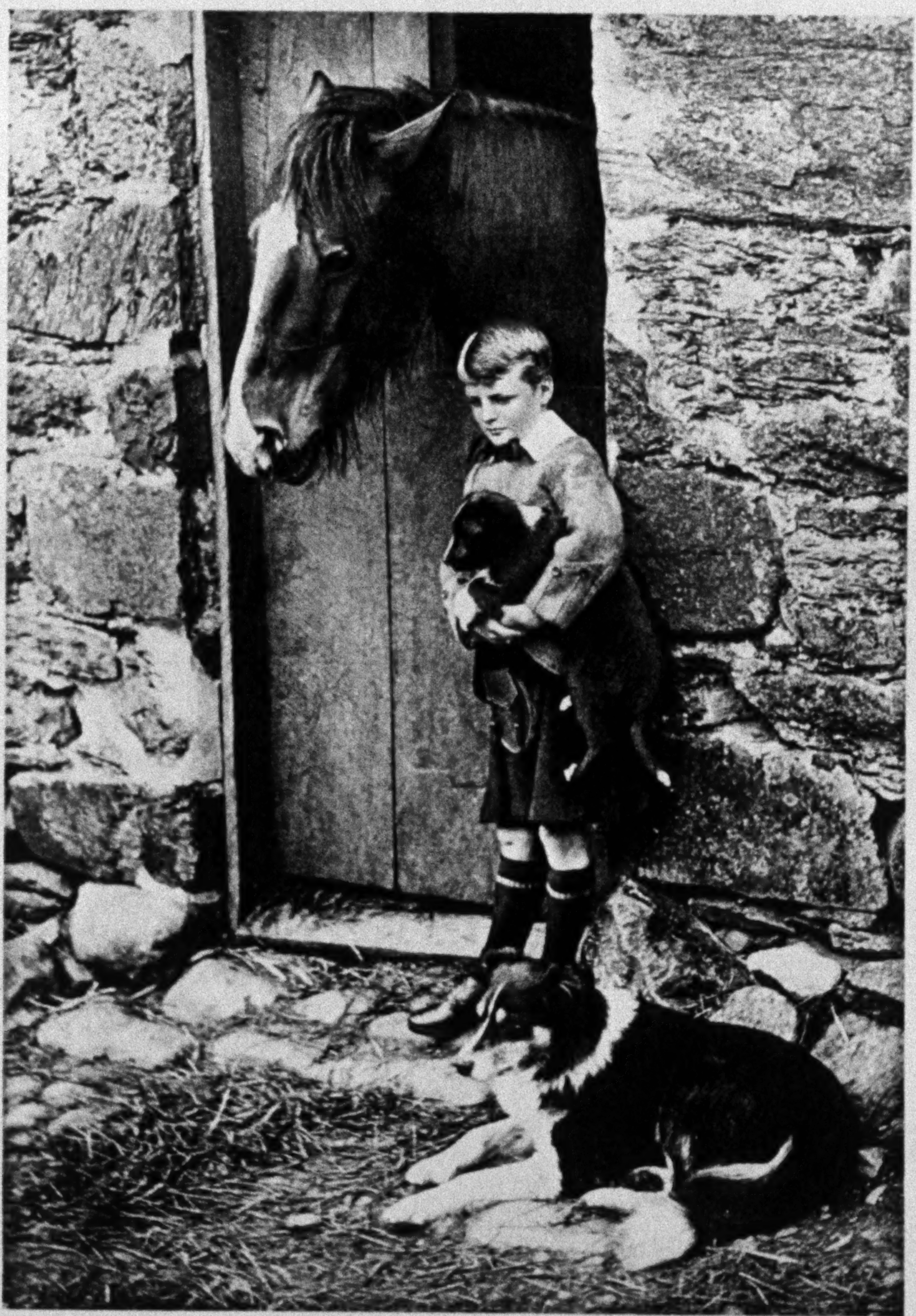
across the street were fired, she went out to a German officer and said, "Don't you *dare* to burn my house. I am caring for the wounded. If you spare my house and the people in it, I will care for your wounded, too." And she kept her word. She mothered the homeless population. The stories she told us made me sick with horror.

AT THE SHRINE WHERE AMERICA WAS CHRISTENED

Back of the ruins are shacks erected by the government to house 800 refugees who have returned to their old haunts. The women had just come in from the hop field. They were poorly clad and in need of new hob-nailed shoes. One poor old soul offered me her only chair. She said she was very grateful to have a home again and was comfortable when it was not cold. "But, O, Madame, if only you could have seen those pewter plates over the fireplace in my house that was burned. They belonged to my great-great-grandmother."

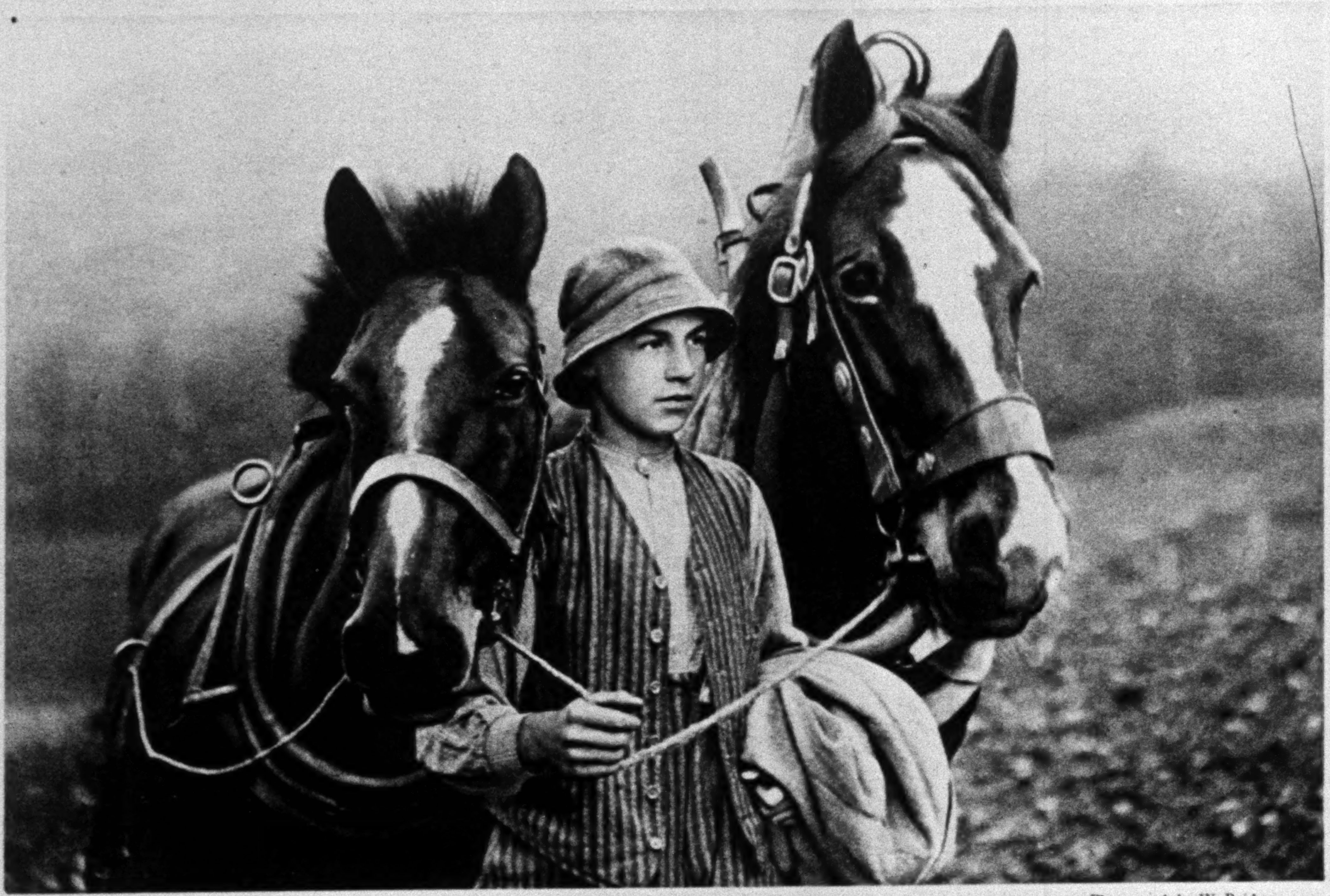
A mecca of mine lay beyond Gerbéviller, in the mountains of the Vosges—the old town of St. Dié, where America was named; but it was under heavy bombardment just then and not at home to visitors. Many of our boys have already seen the places I have described, and some of the Young American Lafayettes may wander through St. Dié's narrow streets and, if it has withstood the German shells, even enter the old house where America was put on the map.

America is on the map to stay, and all the Young American Lafayettes are in France to stay until the day of victory. Since my return from the war zone I have been traveling throughout the United States, feeling the pulse of America. I am convinced that, although the awakening is slow with many, we are at last becoming united and will stand the test; that in the struggle to maintain those principles on which our nation rests we will exhibit the same fortitude and spirit of self-sacrifice I met in French Lorraine.



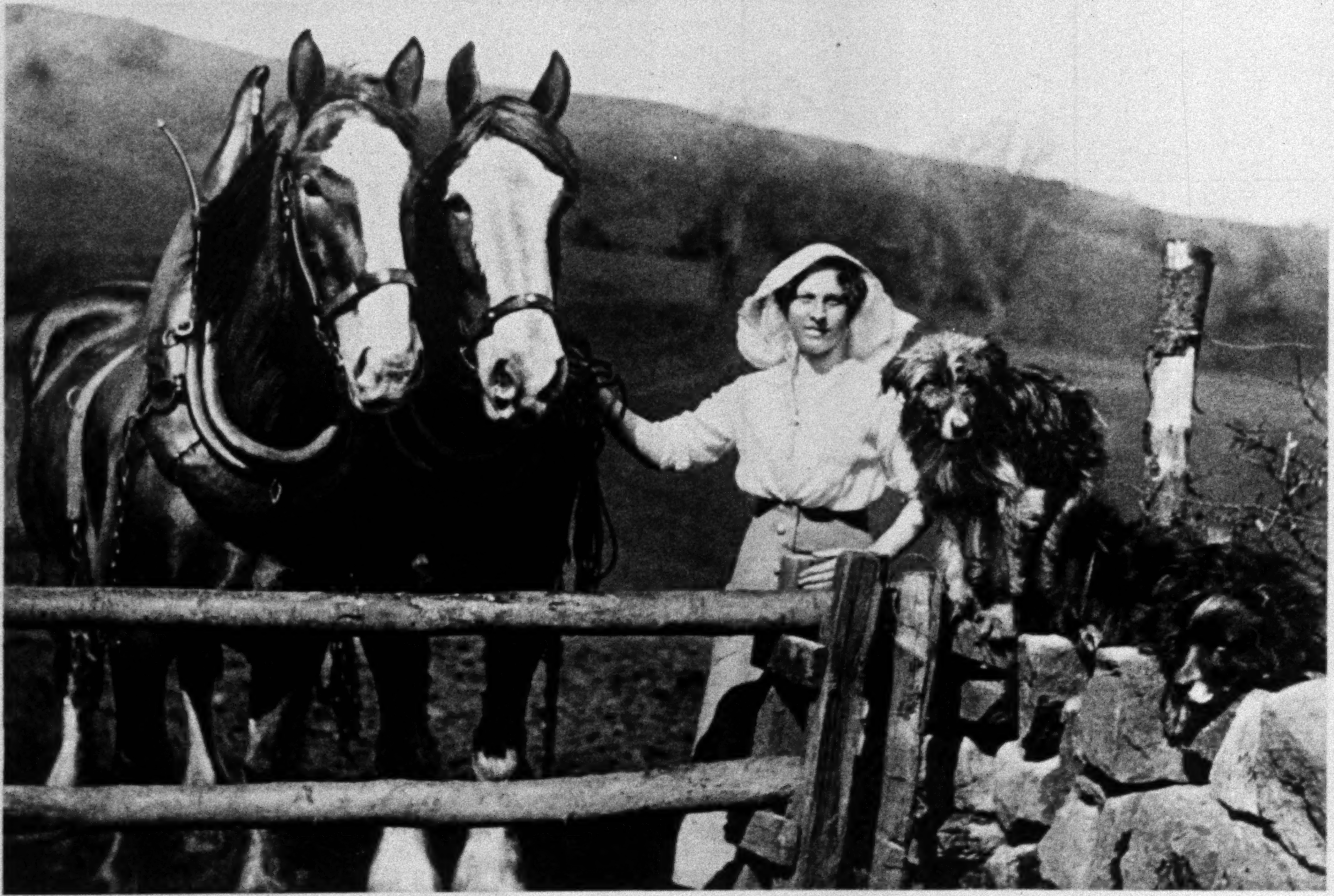
Photograph by W. Reid

BONNIE PRINCE CHARLIE



Photograph by W. Reid

"OF A' THE TRADES THAT I DO KEN
COMMEND ME TO THE PLOUGHMAN"



Photograph by W. Reid

"IN YOUTHFU' BLOOM, LOVE SPARKLING IN HER E'E"

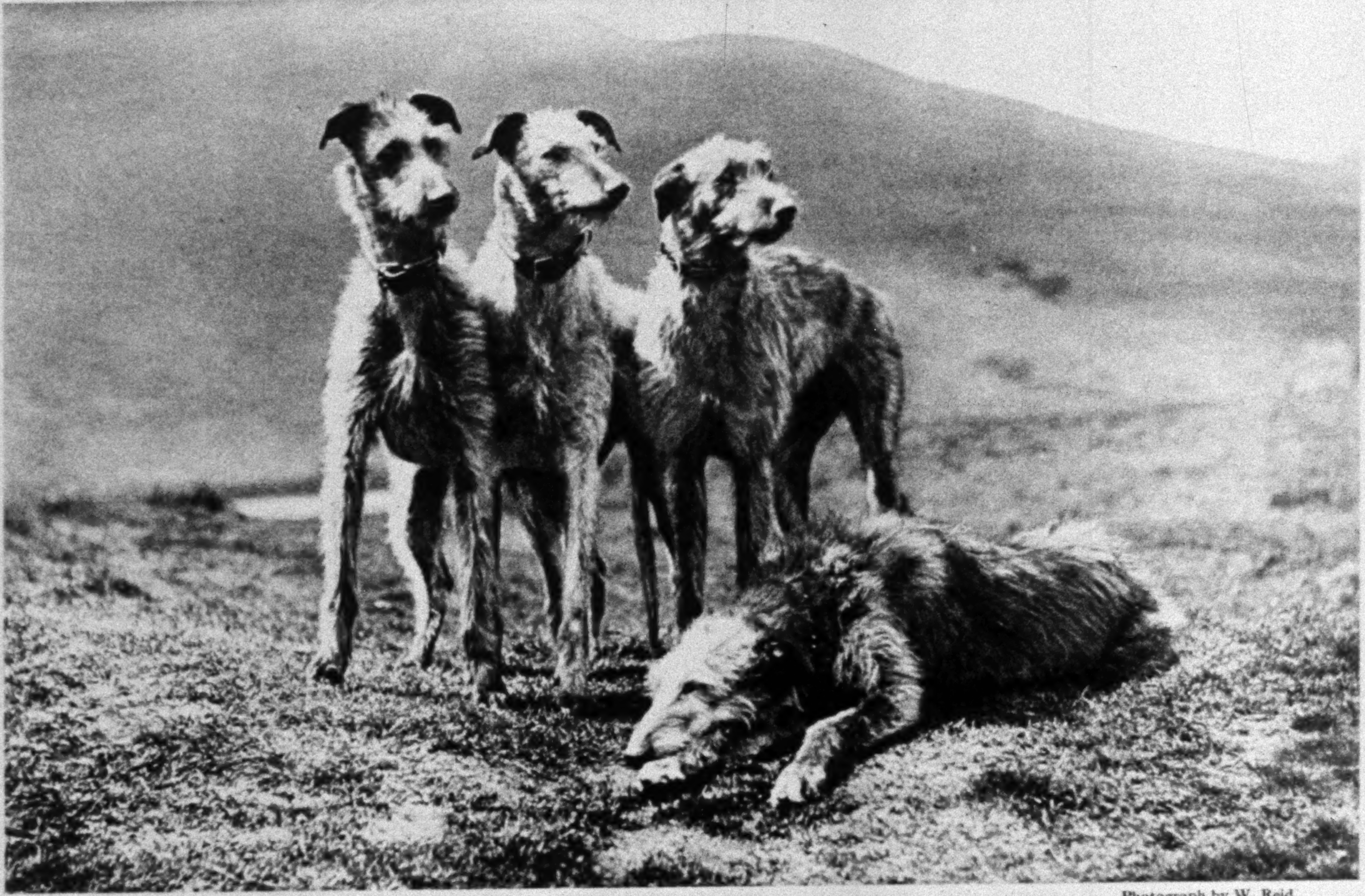
Her promise true given to some soldier sweetheart, this modern Annie Laurie, accompanied by her faithful terrier, performs the duties of the farm, her special care being these noble beasts.

Photograph by W. Reid

HIELAND ORPHANS. HICKERY–DICKERY–DOCK

Photograph by W. Reid

MAN'S BEST FRIENDS

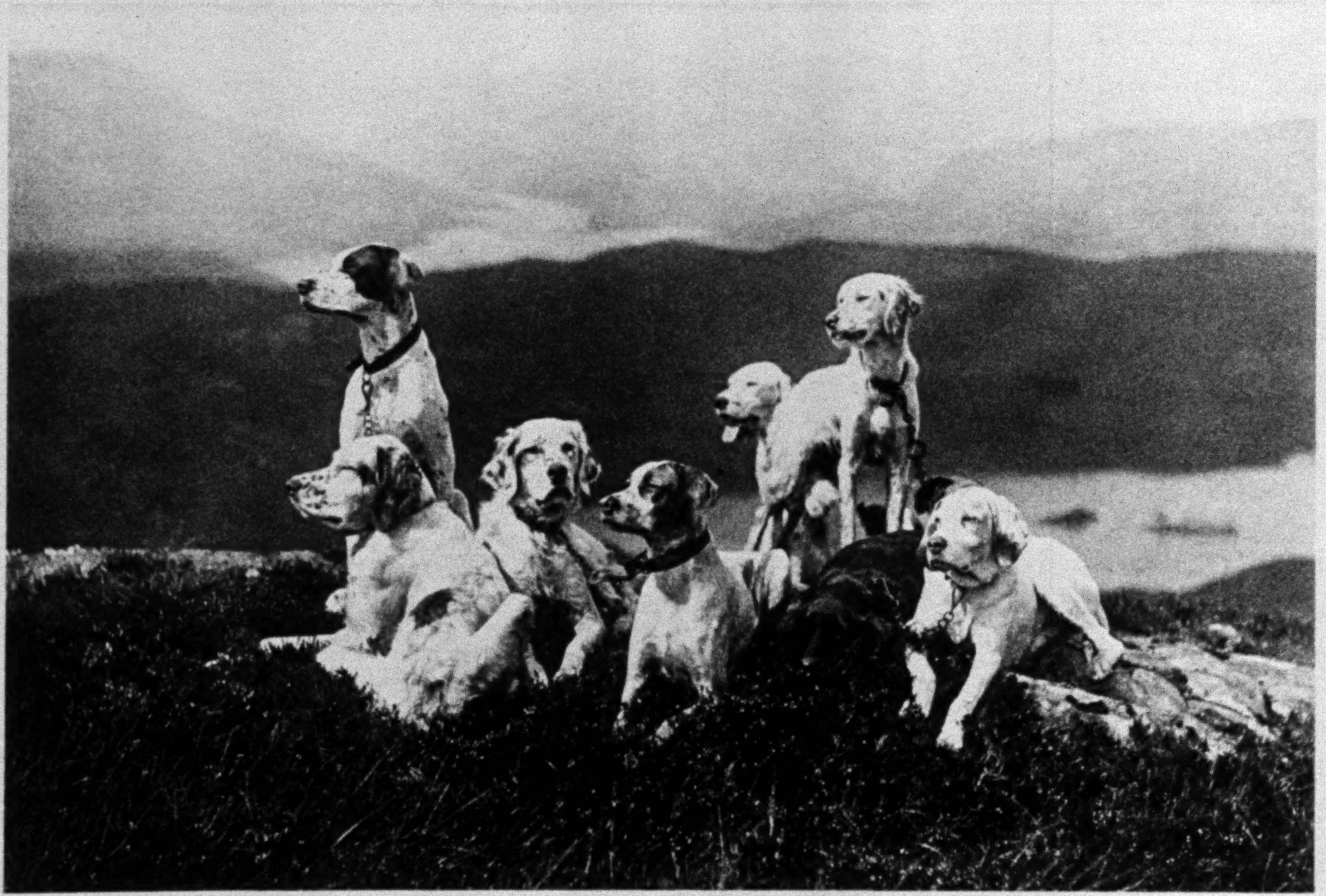


Photograph by W. Reid

AWAKING THE SLACKER

These magnificently alert sporting dogs of Aberfoyle, Perthshire, seem to be posing for the poet's

"In that pricked ear and eager eye
Astonishment may be detected."



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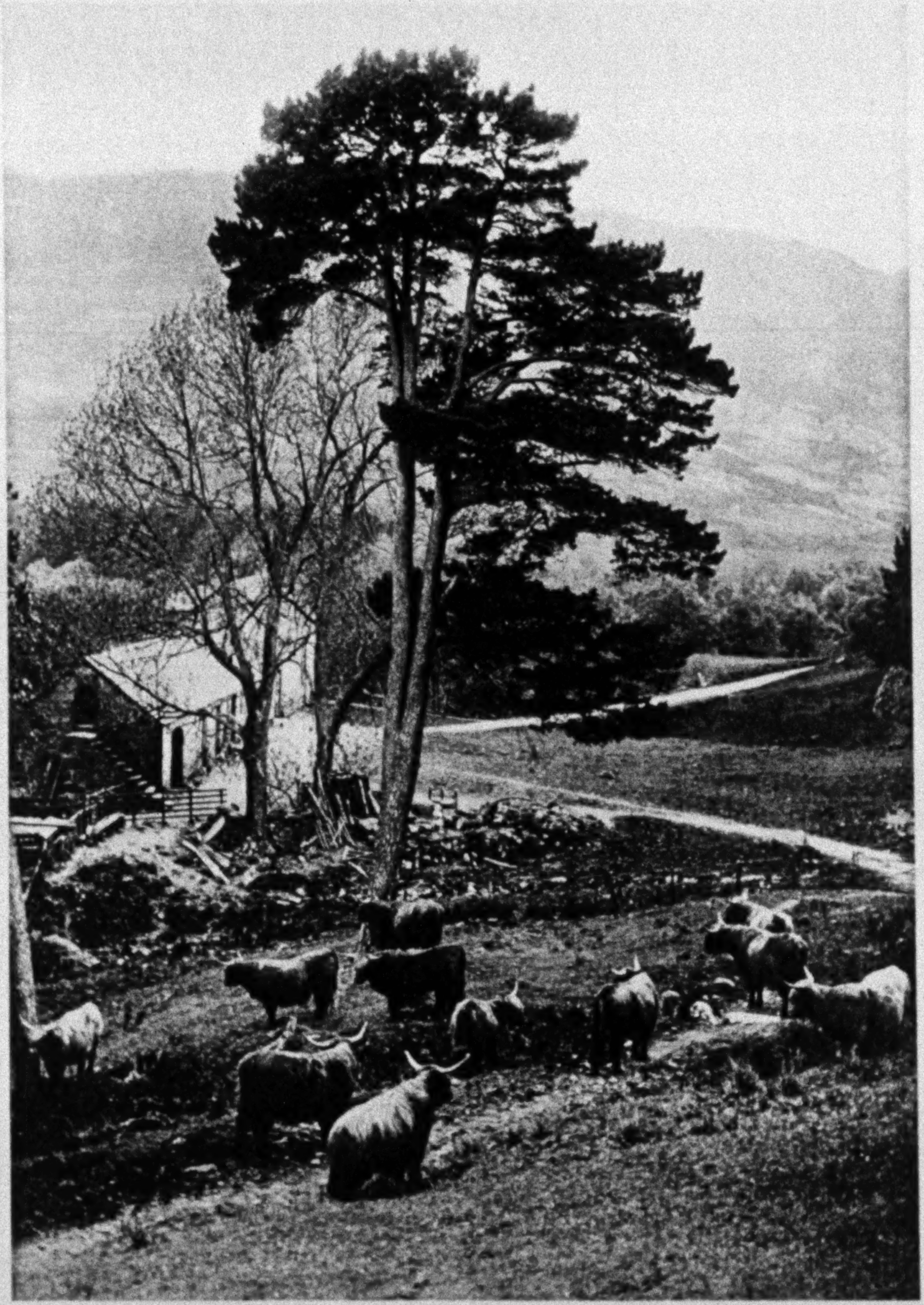
READY FOR THE CALL

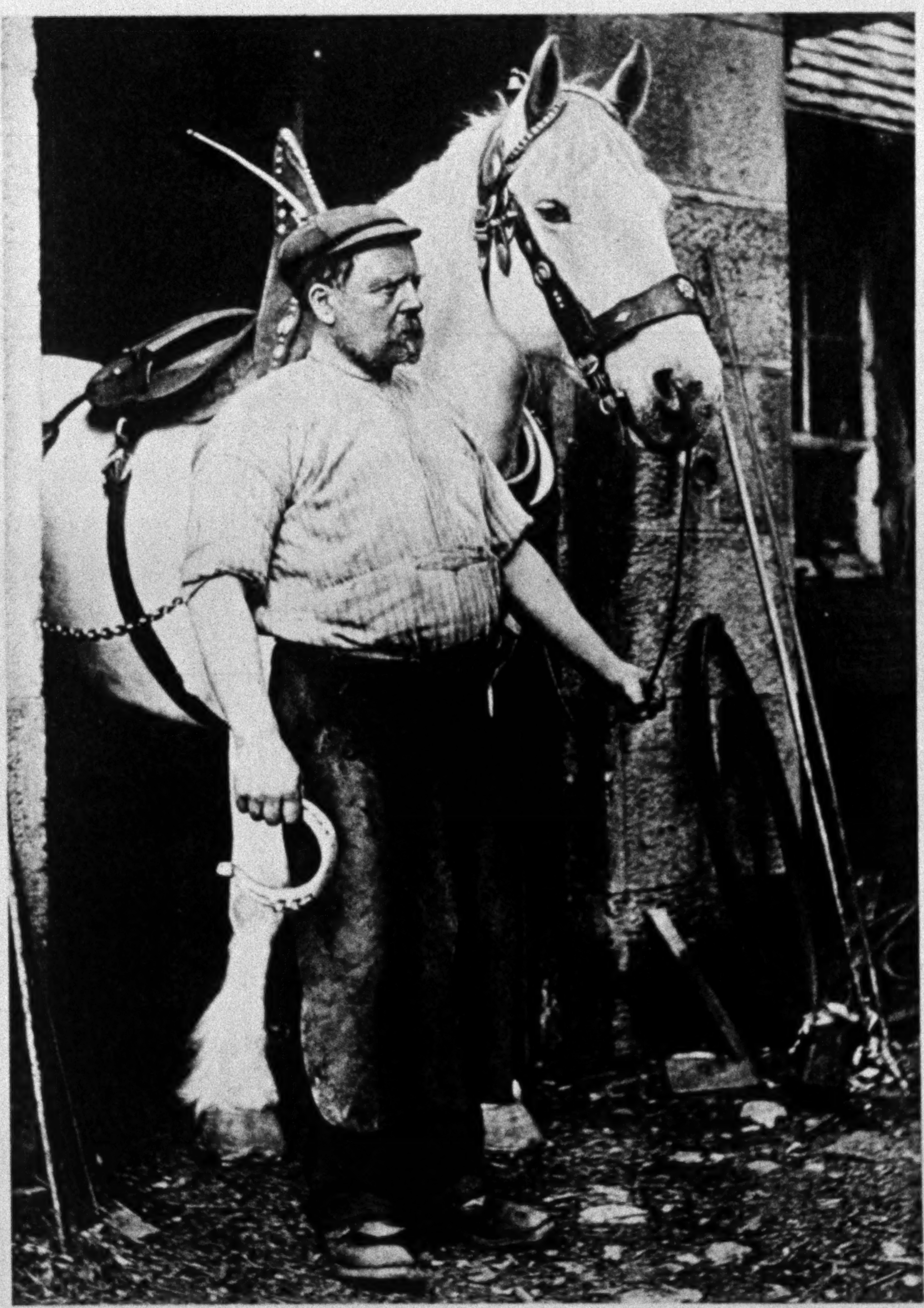
A pack of Scottish deerhounds on the hills in the vicinity of Edinburgh.



Photograph by W. Reid

"GIVE ME BUT ONE HOUR OF SCOTLAND,
LET ME SEE IT ERE I DIE"

After the contemplation of such a scene of peaceful beauty the native of the Highlands recalls with amused superiority the acrid Dr. Johnson's declaration that "the noblest prospect which a Scotchman ever sees is the high road that leads him to England."



Photograph by W. Reid

STRONG, STALWART, UPSTANDING

Such Scottish types as this village blacksmith inspired Burns to philosophize:

"Princes and lords are but the breath of kings;
An honest man's the noblest work of God."

Photograph by W. Reid

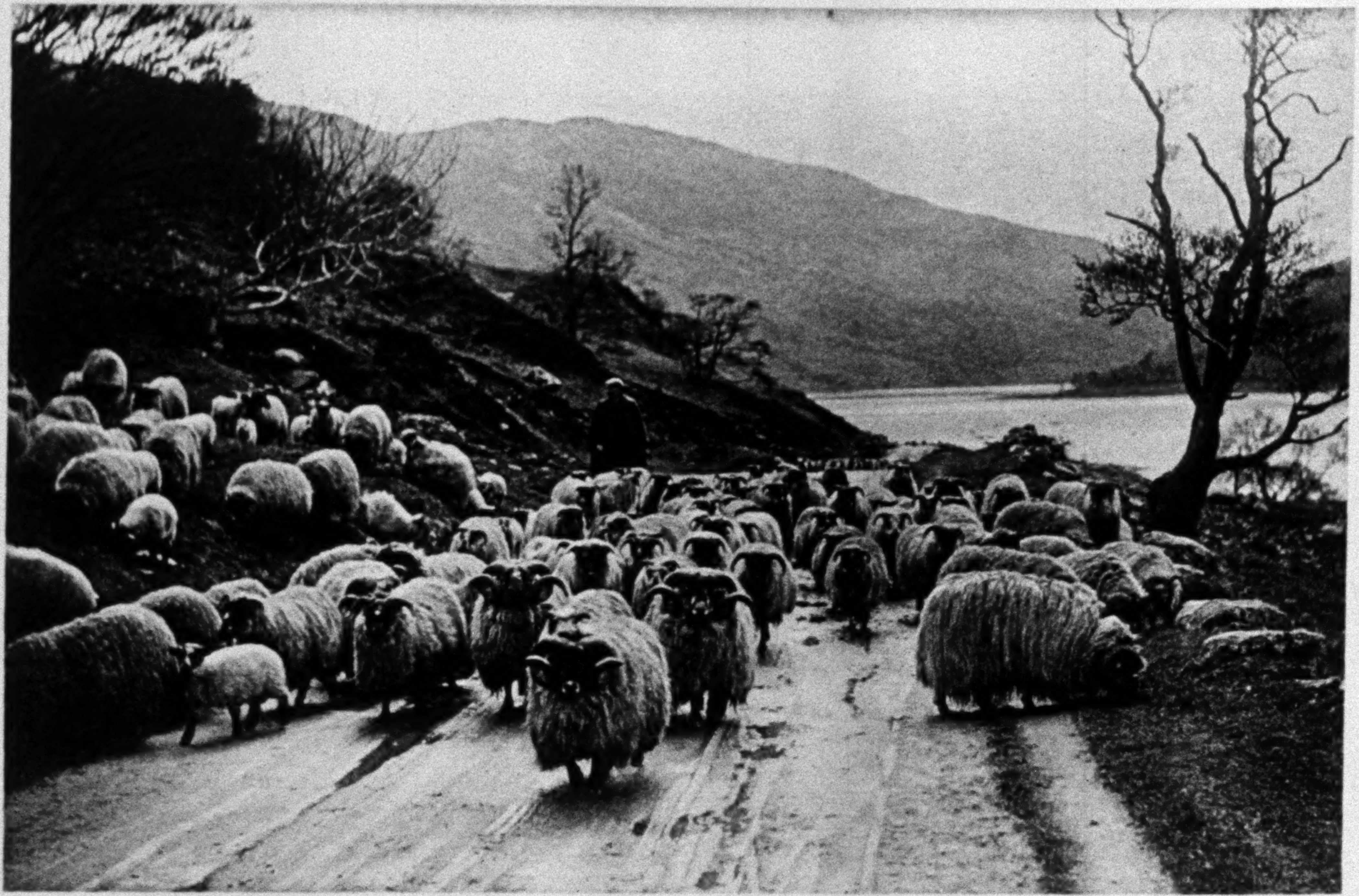
OVER THE TOP!

Three points of interrogation; Scotch terrier puppies ready to explore anyman's land.

Photograph by W. Reid

THE CAMPBELLS ARE COMING

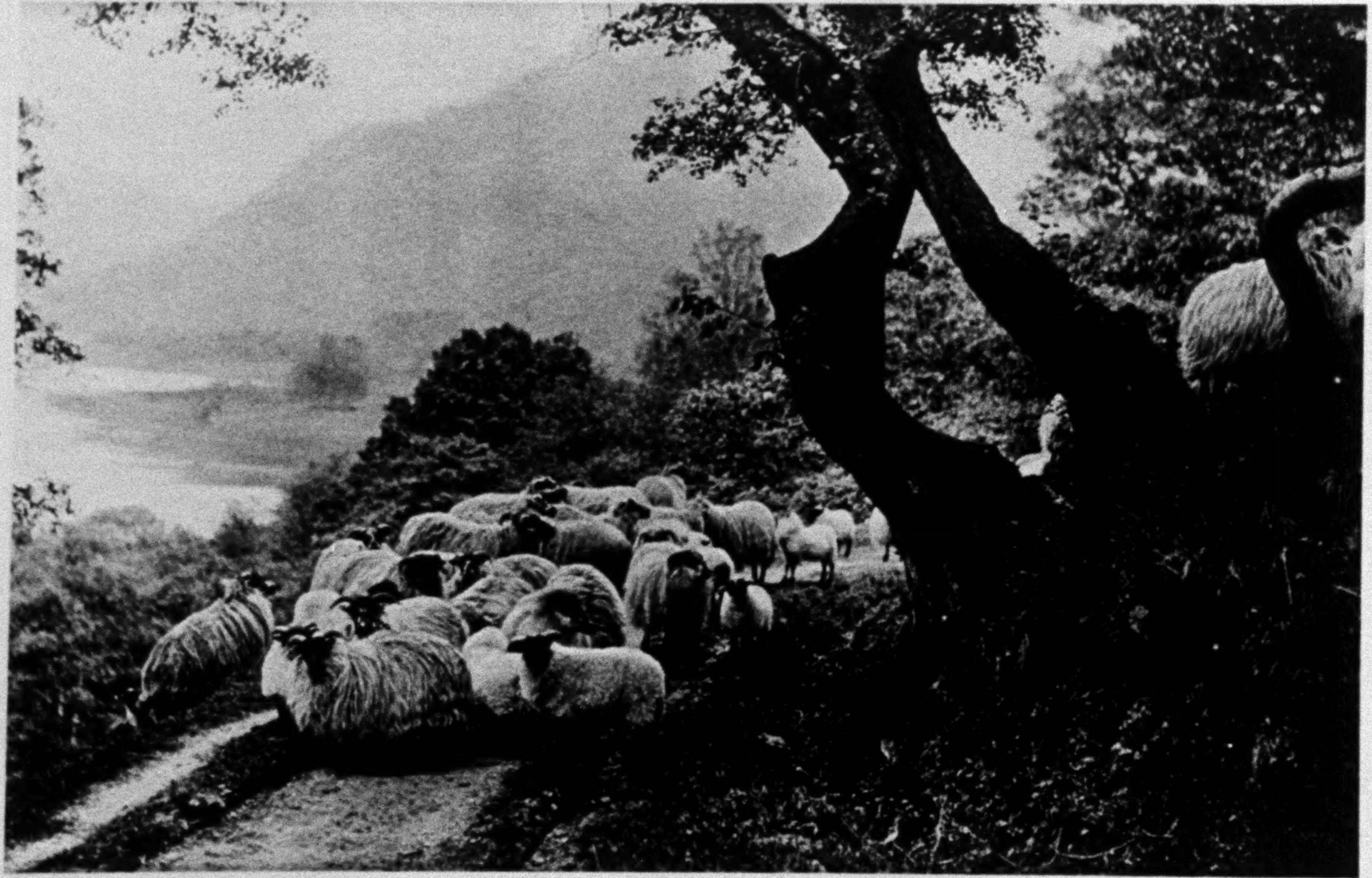
The Scotch collie is the world's traditional sheep dog. His intelligence equals his beauty. Entrusted by his shepherd master with the guardianship of a flock, he soon comes to know the individual sheep, and in a crowded market place skilfully separates his own animals from other droves, and adroitly herds them. Countless are the stories of heroism and devotion told of the collie, and those who know this breed of dog best are his staunchest friends.



Photograph by W. Reid

PLAIDS AND TARTANS TOMORROW

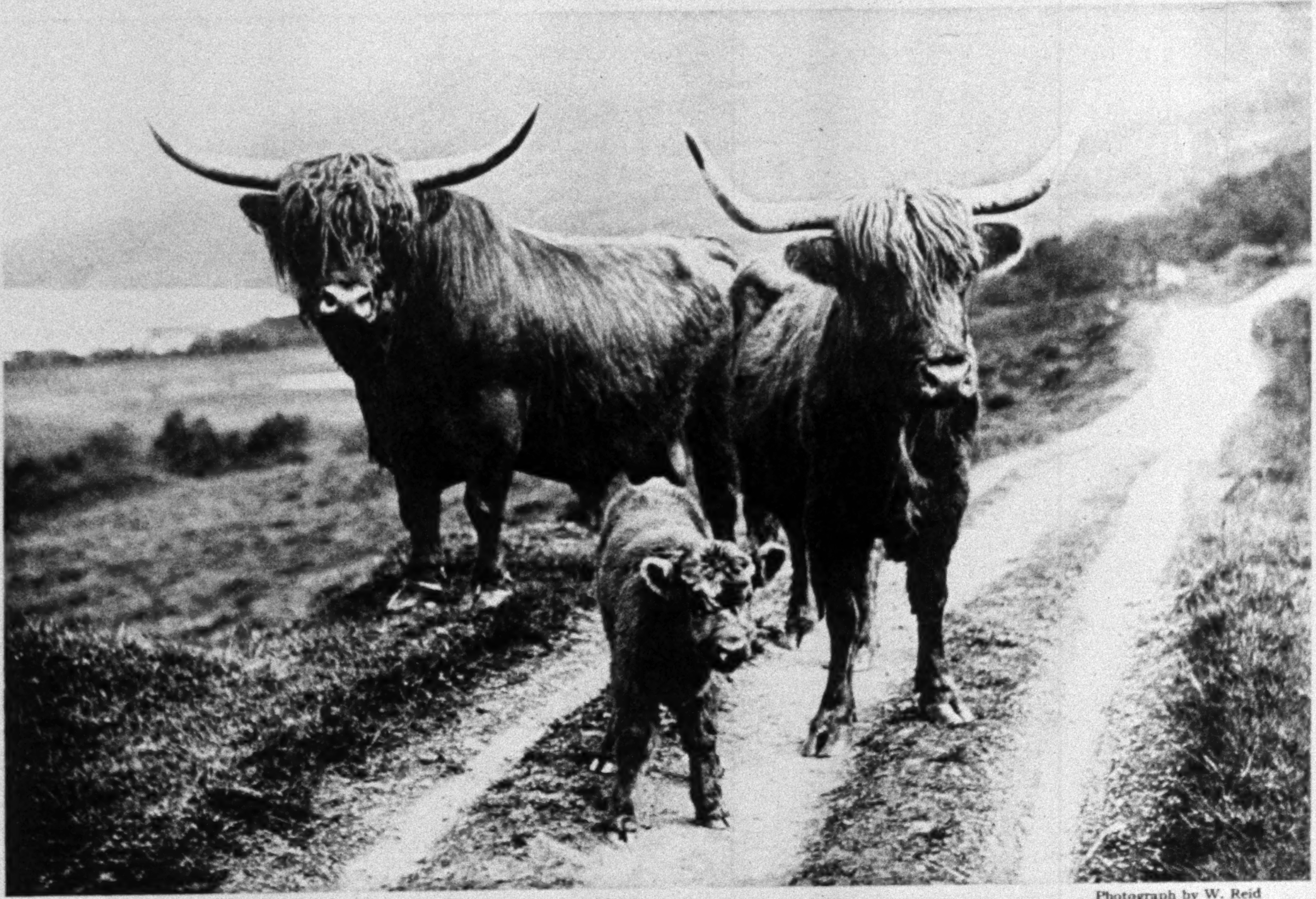
The black-face sheep of Scotland is hardier than the more famous cheviot, which derives its name from the Cheviot hills, the boundary line between England and Scotland. The black-face thrives on wild, exposed grazing land. Its large, low spiral horns and hairy fleece, which often reaches to the ground, are distinguishing characteristics.



OBSTRUCTING TRAFFIC

Photograph by W. Reid

"Land of brown heath and shaggy wood,
Land of the mountain and the flood,
Land of my sires! what mortal hand
Can e'er untie the filial band
That knits me to thy rugged strand!"



Photograph by W. Reid

A HIELAND ROYAL FAMILY

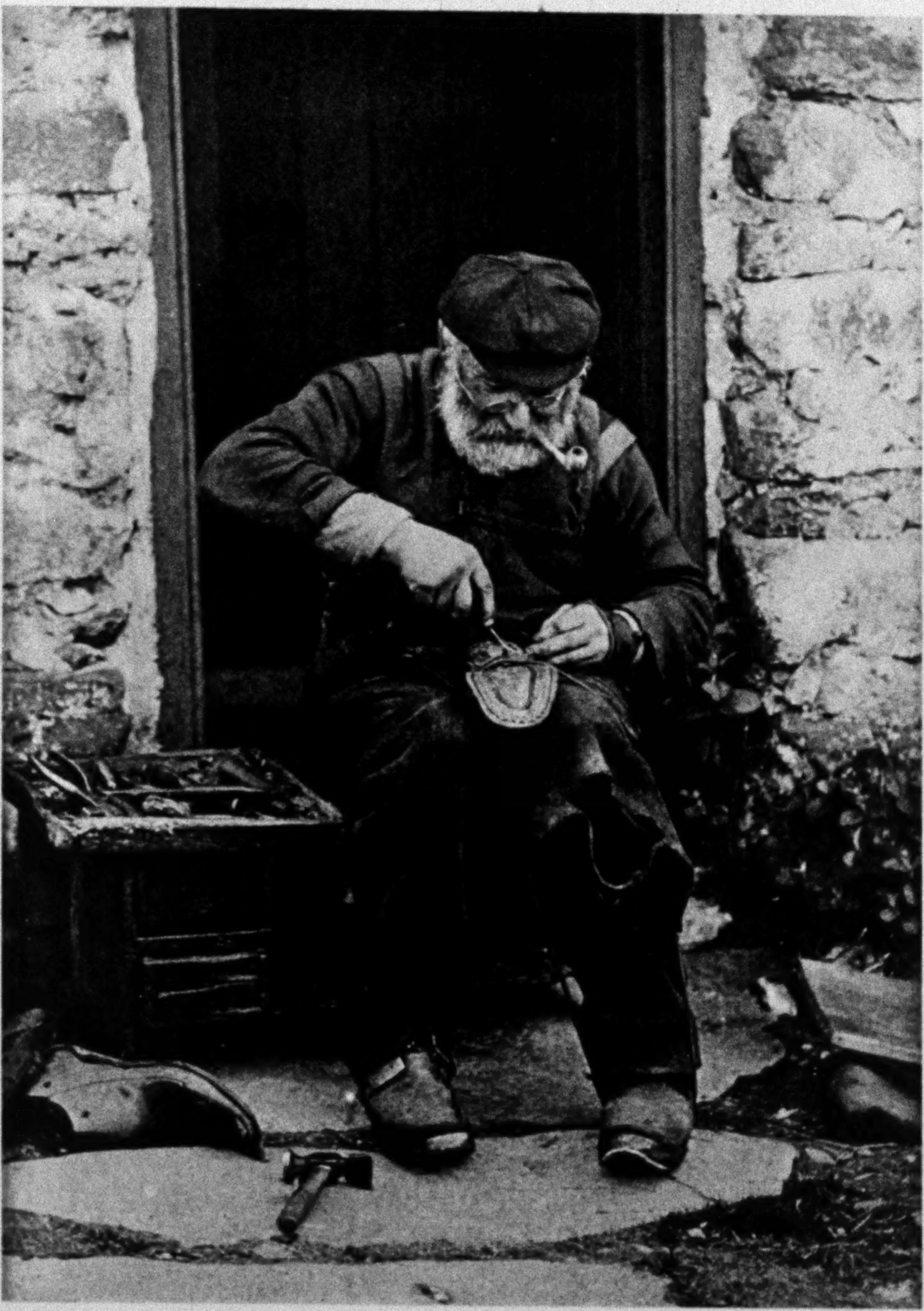
Of these cattle of Scotland it may be said as truly as of Cornwall's "Blood Horse":

"Strong, black, and of a noble breed,
Full of fire and full of bone,
With all his line of fathers known."

Photograph by W. Reid

'MID MOUNTAIN, LAKE, AND MOORLAND WILD

The summits of her "bens" masked in mists and their sides hung with waterfalls of silver sheen; her tranquil "lochs" glowing with turquoise light; her braes brilliant with magic mantles of purple heather and golden gorse, Scotland yields not even to Switzerland in the beauty and variety of its landscape.



Photograph by W. Reid

"I AM, INDEED, SIR, A SURGEON TO OLD SHOES"

"Long may the hardy sons of rustic toil
Be blest with health, and peace, and sweet content."

FROM THE TRENCHES TO VERSAILLES

By Carolyn Corey

YESTERDAY afternoon I took thirty-two soldiers to Versailles. I make this trip three times a week. On the other days I am guide in Paris for our men from the front. It is such fun that I object strenuously to any reference to this as my "war work."

I meet the men at "Blighty." This word, really Indian, means a "corner of home." In this particular instance it is a club where all English-speaking fighters are made welcome. An adored piano works overtime and a phonograph rests only during the change of records. Best of all, enormous plates of thinly sliced bread and butter and huge cups of strong hot tea are served in a great big room, where, as one kid put it, "every table has a cloth."

French soldiers get home leaves every four months. But I've had boys with me who were out of line for the first time in a year. They were the lucky ones; for many that I meet tell me they are free for ten days after sixteen, seventeen, and even nineteen months. If their first excursion happens to take place on the day of arrival, they are more frightened of me than of all the shells and "shrap" they've ever faced.

Not the least of my task is to put them at their ease. I succeed best when I talk their "lingo." I've learned a lot of it from their predecessors and am learning more every day. If a chap says to me: "Gee, it's good to hear your slangwidge," I know he's my friend. And when another insists that I'm "a regular guy," then the ice is broken for all of us.

THE SOLDIER ON LEAVE IS GLORIOUSLY EXTRAVAGANT

Lucky days we find taxis quickly. The distance to the station is not great, but we never walk, for the soldiers "like to let the chauffeur do the work." And be it known that no drunken sailor and no newly-made millionaire was ever so gloriously extravagant as our returned friend in khaki.

The street gamins of Paris discovered this early and flock about us in droves, demanding "One penny, please," in very good English. And I'm sure the one who throws the big copper coins is at least as happy as the one who picks them up. When the first taxi comes along I pile five happy youngsters into it—four inside and one with the driver. I give the address and they are off. The hailing of the taxis and the filling of them stops all traffic. Men, women, and children stop dead in their tracks and sometimes their remarks are worth hearing.

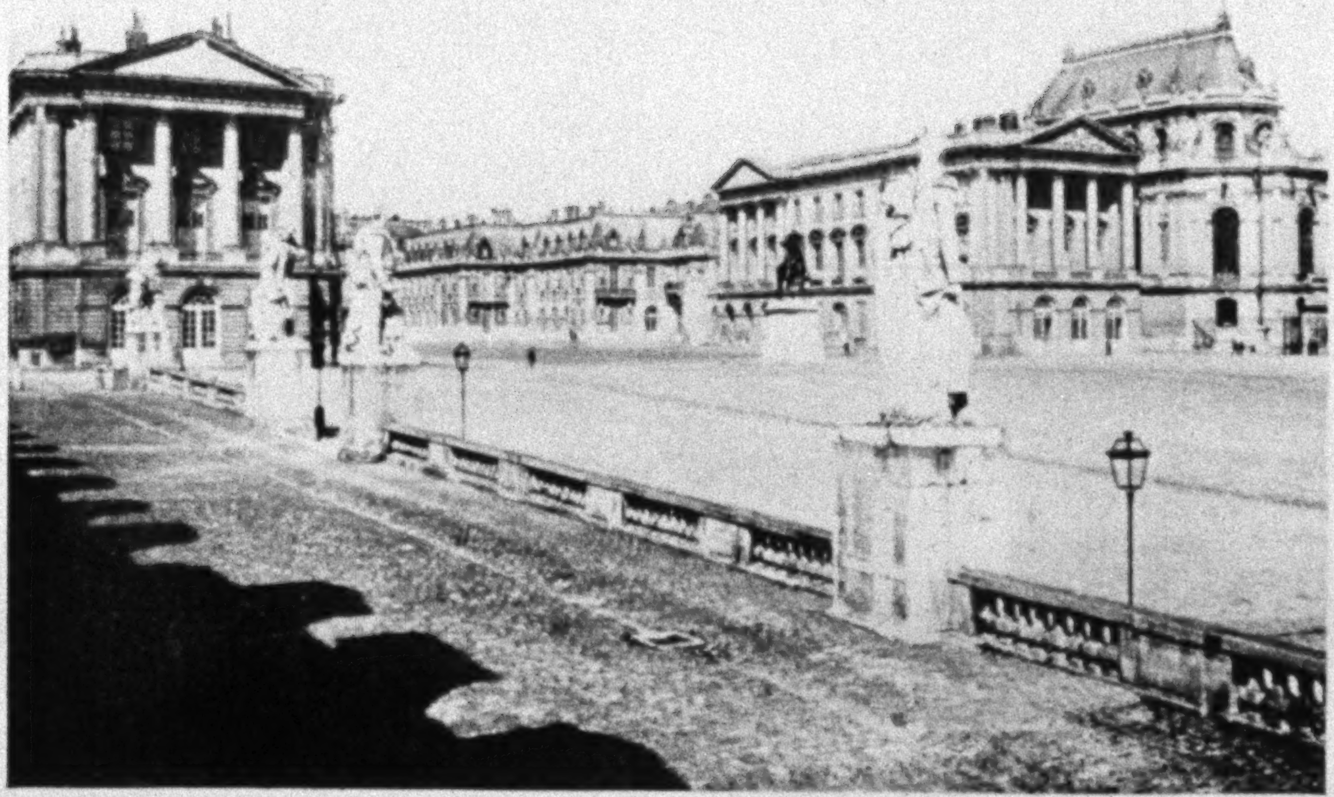
Occasionally we are delayed because two pals refuse to be separated. If there is a seat in one taxi and another in a second, I call attention to that fact. I tell them that the ride is less than ten minutes long. But invariably another car must be found. After all, why should a fellow leave his mate?

The ticket-seller at the station knows me now and actually smiles. He told me the other day that some time he would like to go with me, too, for though born in Paris he has never been to Versailles. He counts out thirty-two second-class military tickets. He stamps each one with a great flourish and hands them to me with a gallant bow. I used to get quite upset at first, but after twice forgetting to purchase a ticket for myself, and having again to stand in line to get it, I soon learned to remain calm.

I buy second-class tickets because I must. There are few first-class carriages and my thirty-two would more than fill them up. But, in spite of explanations, all of the thirty-two pile into the first. And when the conductor comes around, they pay the additional fee with such an expression of "Put me out if you dare" that nothing ever happens. So for all of

THE TRENCHES ARE FORGOTTEN IN THE QUIET BEAUTY OF VERSAILLES

A ROYAL BACKGROUND FOR MR. ATKINS' PORTRAIT



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THE ROYAL PALACE FROM THE PLACE D'ARMES: VERSAILLES, FRANCE

Le Grand Monarque, as French historians have dubbed Louis XIV, employed 36,000 men and 6,000 horses for years in leveling the ground for the gardens and park and in building the Aqueduc de Maintenon, which supplies the Palace of Versailles and its famous fountains with water from the Eure.

thirty-five minutes they revel in the nearly forgotten luxury of red plush seats.

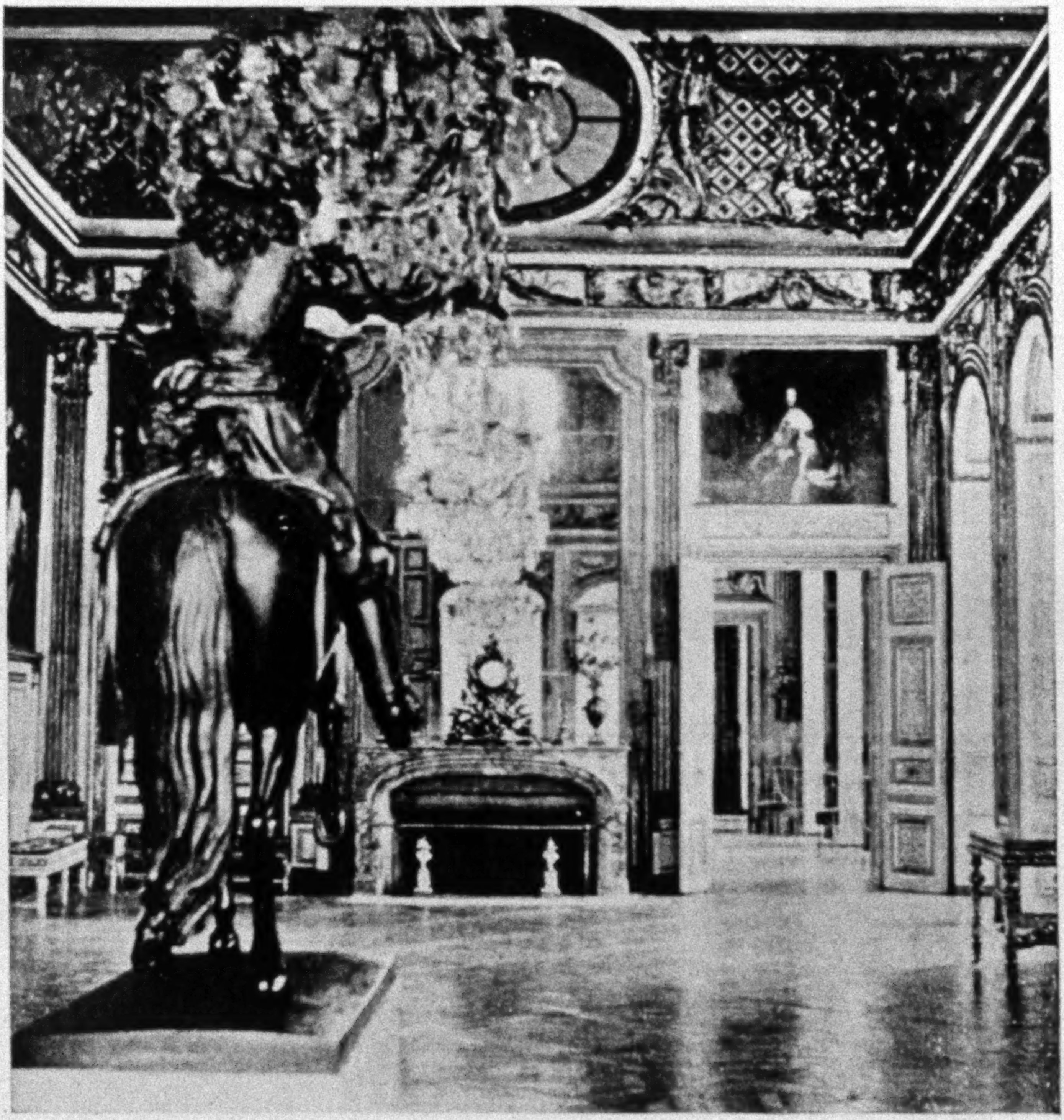
THE PERSONNEL OF THE PARTY

An absurd little whistle goes "toot, toot" and the train pulls out. I close my eyes for a minute; for the placing of the men in the taxis; the wrangling with the drivers who don't want to take us because it is the lunch hour, and who demand, "Is it that a human being must not eat at this hour?" the buying of the tickets to the accompaniment of the remarks of the people around me; the blowing of cheap smoke into my face during the proceeding, and my fear that one of my boys will make good his threat and "knock their dern nuts off;" the dealing out of the tickets with the admonition of "Don't lose this, for you'll have to give it up at the gate;" the seeing that every chap has a seat—well, as I said above, I lean back and close my eyes for a minute.

Then I sit up and look about me to discover how many Canadians, how many New Zealanders, and how many Australians are with me today. I usually have a goodly sprinkling of "Scotties," too. But they tell me they are not Scotch at all—just plain, ordinary "Canucks," or, in loving soldier slang, "Nadies."

When every window has been pried open, every cap or large felt hat has been placed in the racks, on the floor, or far back on close-cropped heads, and especially when cigarettes and pipes are burning merrily, I begin to feel we are really started.

Invariably at this time one will come to me and say longingly: "Say, lady, don't you know any new rag time?" And when I must reluctantly admit that I don't, because "I have been over here as long as you," he murmurs something about "You, too, doing your bit," and begins to "tear off an old one." So, to the accompaniment of the turning wheels the lusty young voices roar such old stand-bys as "Iv'e got a sneaky feelin' round my heart that I want to settle



Photograph by E. Lamy

SALLE DE L'OEIL-DE-BŒUF (HALL OF THE BULL'S EYE): PALACE OF VERSAILLES

So called on account of the oval window where the courtiers of Louis XIV used to await the waking of the monarch in the adjoining apartments. Once the scene of many intrigues, this salon is "*some* dugout" to the 20th century soldier on leave from the front-line trenches.

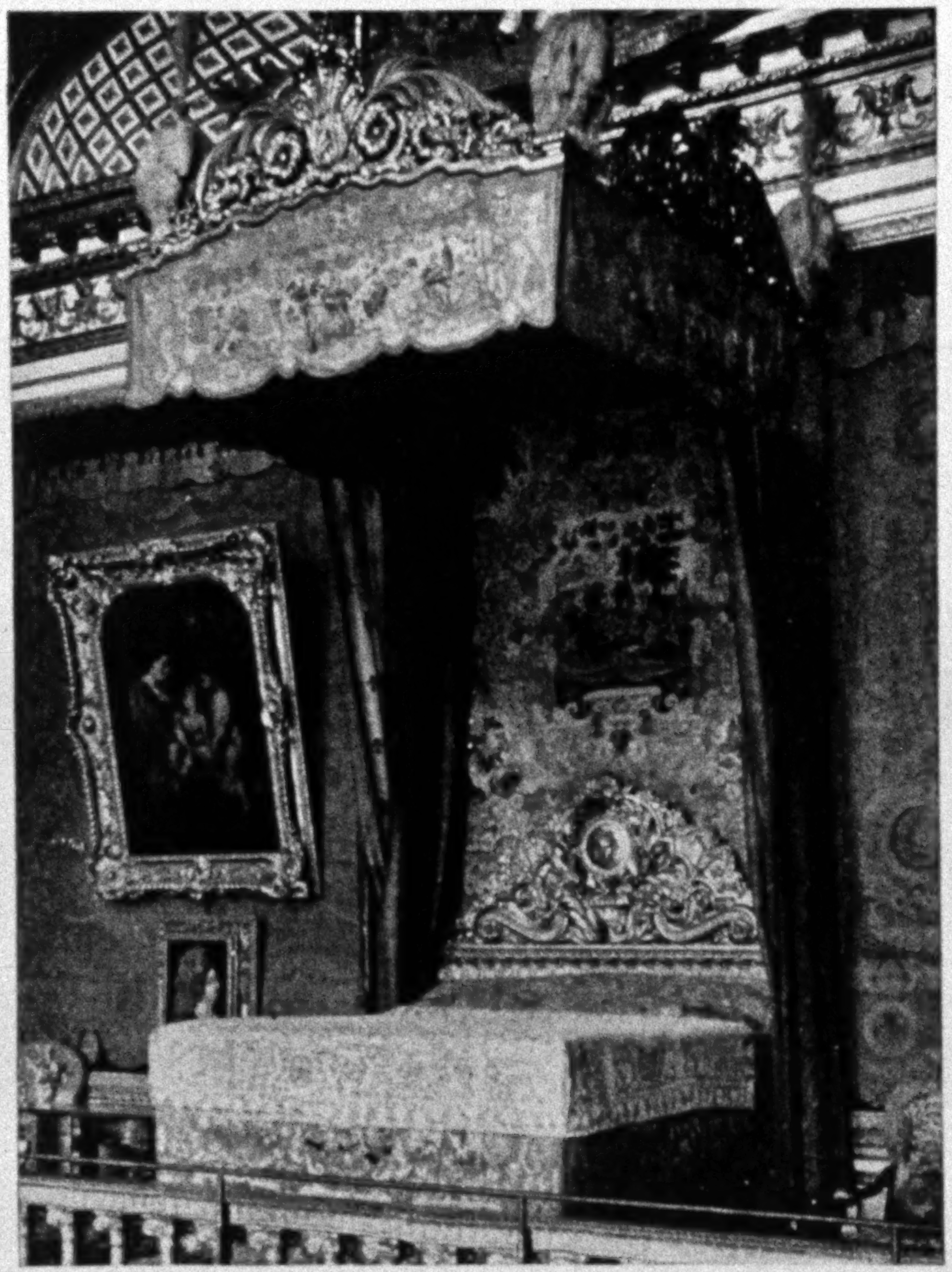
down." And there is always heartfelt feeling in "Gee, how I'd like to be, Gawd, how I want to be, down on the farm."

THE "BLIGHTY" SONG

We stop for a minute or two at a station and I hear many comments. Here are a few: "I gave her a smile, and as soon as she saw my gold tooth she said, 'Oh, ze millionaire.'" And "If this damn war keeps me in the trenches another year, I'm going to desert, I am." At which a wild chorus rises up of "Yes, you ain't." Then, in a very soft, drawling English voice, one boy says: "Australia is as much a farming country as France; and after what I've seen here, I'll never vote for conscription at home. Suppose my sisters had to plow!"

Again the train pulls out, and a voice, almost girlish in freshness, sings: "The roses round the door make me love mother more." After he has finished some one starts the "Blighty" song. It goes like this: "Please take me across the sea, where the old Allymongs can't get me; 'Cause, my, my, my! I don't wanna die, but I wanna go ho-ome." It is repeated over and over and over, and long afterwards, when I am again alone, it rings in my head and my heart.

Arrived at Versailles, I scurry back and forth on the platform to see that no one is left behind. For once a lad fell asleep and had to be prodded out at the last moment. He admitted frankly that he'd had two bottles of whisky and a hard night. He asked me stupidly, "What's 'Vursales' anyway?" Later in the afternoon he promised to take a Turkish bath, or, as he told it, "a bunch of 'em."



© C. H. Graves

BED-CHAMBER OF LOUIS XIV AT VERSAILLES, FRANCE

"It's a funny, flat bed, and one chap said with a grin, 'If Looey had one drink he couldn't get onto it, and if he took two he couldn't stay on.'"

In spite of my drastic warning, there is often a scared-looking soldier who tells me shamefacedly that he has lost his ticket. I, in turn, tell this to the man at the gate. He smiles indulgently and assures me that "all American soldiers can pass through," which doesn't make a hit at all, especially with the Australians, who on account of their soft hats are often taken for "Sammies." More than once have I heard a "Go to the devil" in response to "Bon jour, cher Americain." When the strap which holds the hat to the head is worn before the ears, the wearer is from far-off Kangaroo Land; but when it's worn behind the ears, he's a Yank. And you mustn't mix 'em up, either.

For the short walk to the castle we do not go two or four abreast, but all together; for I find that a man on leave tries to forget everything military. What he wants to do least of all is to walk. He hates it almost as much as he hates the rain, and he hates the rain like poison. At the front he must get wet and muddy. In town he loves to be dry and clean. In spite of his loathing for foot exercise, I know, however, that the average soldier is willing to walk miles on the trail of some interesting scrap of history or even a charming bit of scenery.

In the center of the huge courtyard I gather them all about me and give a short, a very short, description of the palace. Every one listens carefully and the intelligent ones ask questions. When I call their attention to the original cobblestones some one remarks, "I'd like to meet the gink that invented them. Bet he never had to wear ten pounds of iron in his boots." When I say that the palace cost four million pounds I hear, "Wrap it up." And when I say slowly and distinctly that there are rooms for ten thousand guests, I hear a sigh and "I'd like to stay here for duration."

We go into the Salle de Congrès and I tell the story of how it was built and ab-so-lute-ly finished in three months, and I hear a grunt of disbelief and a bass voice saying, "It takes a Frenchy that long to cook a steak." When I announce that the guide is a veteran of the Franco-Prussian War, as they can see by his military medal and his empty sleeve, one generous fellow yells, "Every fellow hand him a franc." But I object vigorously and tell them that that would never do; it would be establishing another precedent, and goodness knows enough have already been established here for the man in khaki; at which the wit of the crowd pipes, "At least you'll let me kiss him."

Now, thanks to the kindness of the French Government, the château is opened to my thirty-two. We enter into all the magnificence that was Louis's through the great wide doors, not, however, wide enough to accommodate the eager troop of veritable children, who crowd and push and joke and swear.

MR. ATKINS STUDIES ART

We halt a second before the big picture of Louis XIV, because several want to take "a peek at the 'kink' who was responsible." And as all of Versailles is essentially Louis, after awhile it gets to be a game, this hunting for and finding of Louis in bronze, marble, and oil in all sorts of poses and costumes; so much so that one day when one of my guests took some snap-shots of the party, another said, "We mustn't tell Looey; he'd hate so to be out of it."

We ascend the gorgeous marble staircase, the favorite one of Marie Antoinette, and I try not to smile when a miner from the Yukon refers to her as "Marie Antonio." Lord love him, he's going to see everything and know who's who and why. At least that's what he tells me. An Australian mutters that his favorite staircase is the one that leads off the boat at Sydney, and a second, and a third, and a fourth agree with enthusiasm.

We wander slowly and awesomely through the grandeur of the gallery of battle pictures. We examine attentively the picture depicting one of the first victories of France, in the year 496. I never forget to point out the trench helmet, so like the one in use now, and employed, as another picture proves, early in the thirteenth century. I always remember to halt the entire company before the battle of Lens, which took place in 1648, on the 20th of August. The date and month are of importance, because it was on almost that very same date and month of this year that Canada started to get back Lens.

STEALING SHY GLANCES AT THEMSELVES IN THE BALLROOM MIRRORS

And when I ask mischievously, "Boys, are we or are we not going to do it?" well, I'll venture to say that the great room in which we stand never echoed to deeper or sincerer emotion than during the second when positive voices shout, "We are!"

We are taken through many of the private rooms of the court. We see Louis's bedroom. It's a funny, flat bed, and one fellow says that "if Looey had one drink he couldn't get onto it, and that if he took two he couldn't stay on."

I point out the little balcony leading from this room, where Marie Antoinette addressed the Parisian mob, and I tell them that in answer to their cries for bread she asked them why they didn't eat cake. This always brings a laugh, just as does the story that in the beginning of this war the Kaiser said Versailles was to be the summer home of the Crown Prince. Here I refrain from repeating the remarks.

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THE GALLERY OF BATTLES, ROYAL PALACE: VERSAILLES, FRANCE

"We wander slowly and awesomely through the grandeur of the gallery of battle pictures. I never forget to point out the trench helmet, so like the one in use now, and employed, as one picture proves, early in the thirteenth century."

We see the ballroom, of a size and splendor never equaled in the history of the world. We walk the entire length and my thirty-two steal shy or defiantly bold glances at themselves in its mirrored walls. I hear a voice say, "Some dug-out;" and again, "Gee, I'd like to stay here for duration."

I turn around and for the first time get a good look at the one the others have dubbed the "Infant." I call him to me on the pretense of showing him the view from the windows. I talk rapidly, so that he may not be too ill at ease. After a few minutes he tells me he is from Providence, R. I.; that he is just seventeen and has been on active service for more than a year. When I ask how he got in so young, he smilingly admits that he ran away from home, lied as to his age, and that he's mighty glad he came, except for the discipline. "That's pretty hard on a man, you know."

I look at him again and I see that he is straight, and strong, and very intelligent. I see also that he has a baby mouth and an almost loving way of staring at me. So I decide to take him under my wing—and I do so. I scold him in all earnestness when he insists upon sliding

XUM

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LAKE AND FARM OF MARIE ANTOINETTE: PALACE OF PETIT TRIANON, VERSAILLES, FRANCE

In the nine or ten rustic cottages which dot the shores of this beautiful little artificial body of water the care-free Marie Antoinette and her irresponsible retinue played at leading "the simple life," which came into fashion with the publication of Rousseau's "The Village Soothsayer."

on the highly polished ballroom floor, but I forgive him when he winks at me in the wickedest possible manner.

WHERE BEAUTY BRINGS A TEAR

After we've seen what seems like miles of beautiful old rooms, and furniture, and rugs, and tapestries, we tip our guide in true soldier style. Then we sally forth into the fresh, sweet-swelling openness of the gardens. We all heave a huge sigh to leave behind the close, hot air of indoors. We breathe deeply for very joy of living and being away from "Fritzie," in whom we all admit there's "a mighty good kick yet."

We saunter slowly to the top of the superb marble stairs, where we just naturally stop. Somehow I can never stand on this particular spot with my soldier friends without feeling a great lump in my throat. Sometimes a boy will almost whisper, "Beautiful," or "Bonza," if he is an Australian, which means everything that is good; but mostly they say nothing. Sometimes I see a kid surreptitiously take off his cap, and once I saw a tear; it was in the eye of a man who had been an artist at home; now he is assistant camp cook.

Now we descend the great white steps, thirty-two pairs of army boots clang-clanging and one pair of high heels always in the lead. Once more I gather them all about me, the "Infant" closest of all, and we feast our eyes upon the beauties of the fountain of Latona. I tell them what it means. Every fairy tale begins in the same old way; so here goes:

"Once upon a time, when the goddess whom you see at the top of the fountain was wandering in a little village, she was very thirsty. She came upon a lot of women and children and begged them for a drink. But they refused and laughed at her. So she called upon Jove, and he, with one wave of his hand turned them all into turtles and frogs, just as you see them here."

And all around me I hear, "What a charming tale," and "Nonsense," and "It 'ud take a lot o' this to kill me."

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MARKET-PLACE IN PEACE TIMES: VERSAILLES, FRANCE

It was the lavish hand of Louis XIV which made Versailles one of the famous show-places of the world. It is of especial interest to Americans now fighting in France. When granted occasional leave from the trenches they naturally go to Paris and flock to the great chateau, which is said to have cost $100,000,000 apart from the forced labor exacted under the old feudal system. Versailles before the outbreak of the war had a population of 60,000.

AT THE GROTTO OF APOLLO

From here I steer them in the general direction of the Grotto of Apollo. I announce our destination when a big, breezy farmer from New Zealand ventures: "Oh, yes, that's the place where Louis is getting washed by those women." And I pretend not to hear him nor the "S-h-h-h-h-h" from every side. As we approach the grotto, the guide, another old soldier, still wearing his long sword, comes up to us with a look of "come into my parlor, said the spider to the fly."

He, too, knows me now and is my friend. So he unlocks the high bronze gates while humming a naughty little song, and we step from the brilliant sunshine of the open garden into a bit of exquisite old forest, delightfully cool and absolutely still. I hear a sighing, "Is this really true?" and a cursing, "Oh, how my feet hurt!". We come to the grotto, and immediately my thirty-two weary wanderers fall upon the grass in attitudes of—I might almost say abandon. I reel off the story of the pretty rocks, which,

XUM

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"LAST MOMENTS OF NAPOLEON": PALACE OF VERSAILLES, FRANCE

Something akin to awe masters the Tommie as he stands before this block of insensate marble, which depicts with such solemnity the final hour of that restless genius at whose word princes and principalities sprung into being; dying, his only realm of rule the crumpled map upon which he traced the boundaries of his former conquests.

"though you'd scarcely believe it, are not natural at all, but artificial."

I talk on, and on, and try to make my little lecture entertaining, for by this time I know that everybody present needs a rest. So we take it here, under the old, old trees, which almost meet over the ever-present statue of Louis, this time in the company of his ministering maidens. Even the custodian obligingly sits down and waits patiently until I again give the sign to "fall in."

He knows that "permissions" to Paris are scarce, for I've told him about that. He knows that the biggest and best fighting man is only a tired little kiddie at heart, and he knows above everything else that some of today's number are seeing their last bit of beauty.

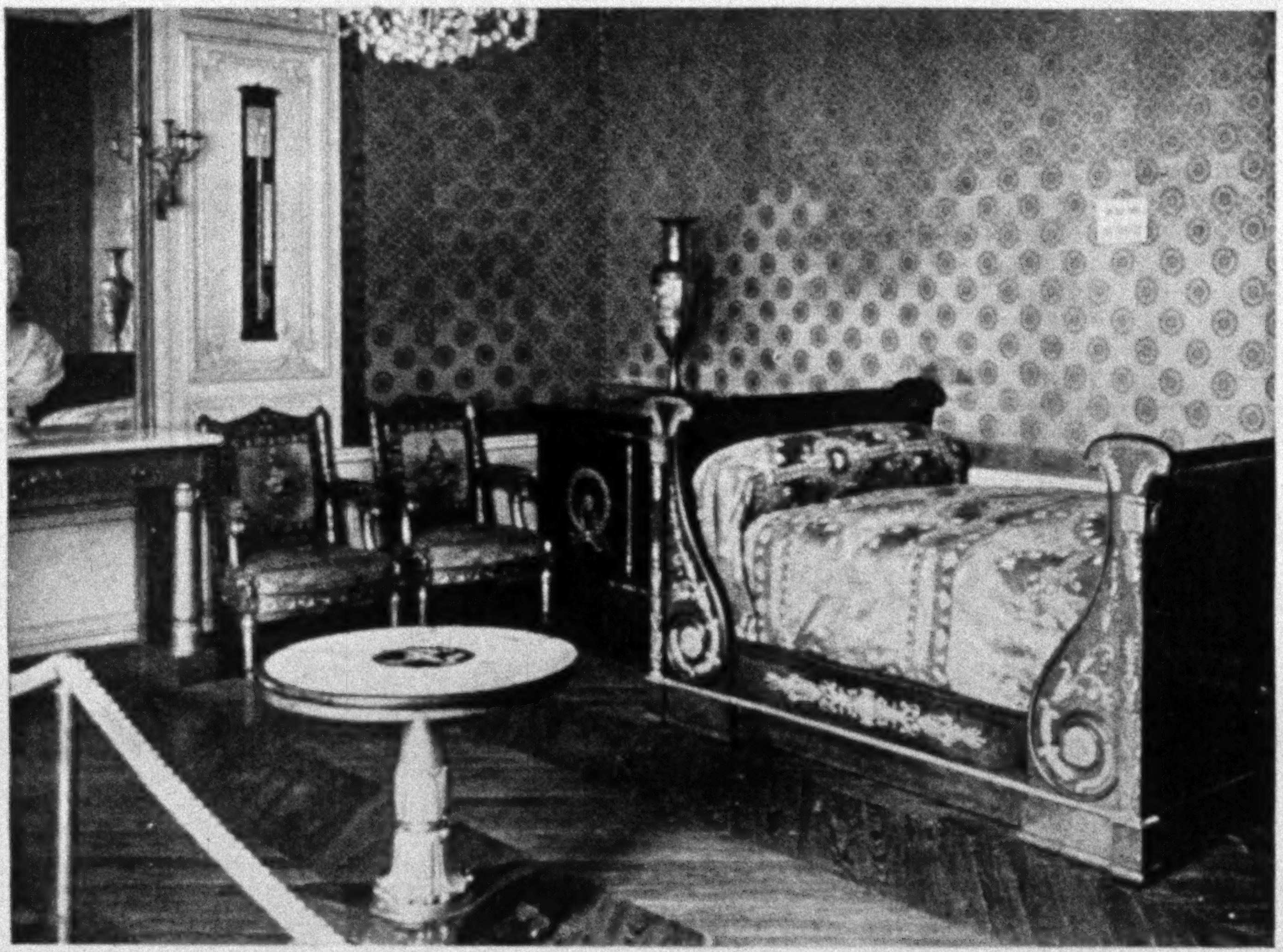
Pretty soon, after a hasty glance at my watch, I say: "On our weary way. On with the mad pursuit of Art and Information." Then, with a great stretching of arms and legs and a few ill-disguised yawns, we pass again through the high bronze gate, all but the smiling guide poorer by a few pennies.

We wander through long avenues of stately plane-trees whose bark has disappeared, leaving the bare and beautiful yellow of the trunk to remind us that autumn is again with us. We pass and admire the fountains of the Four Seasons, the stunning one of Hercules, and the pretty one called "The Sheaf of Wheat."

We are on our way to the handsomest one of all, that of Apollo in his chariot drawn by high-stepping, splashing horses. Now we come to a little lane which I love. It is narrow and shadowy, and so still that the rustling of the ivy leaves which cover all the trees seems almost loud.

"THE TINIEST LEAF FOR THE ONE WAITING AT HOME"

I stop in the center of the roadway, and when the last straggler has caught up I again make a little speech. I say:



BEDROOM OF NAPOLEON: VERSAILLES, FRANCE

The over-seas soldiers on leave and off for a "look-see" at Versailles have no compunction about referring to Louis XIV as "the kink who was responsible," but in the simple apartments of the "Little Corporal" their bearing is always one of respectful admiration.

"Boys, the French have a pretty saying that 'the smaller the ivy leaf, the dearer the love.' So I want each one of you to find the tiniest leaf possible and send it to the one that's waiting at home." Before I have finished I find myself alone. Every homesick soldier is keen in his search, sure that his leaf is going to be the smallest. One after another comes to me and asks, "How about this one?" or "Won't you please look at mine?" And the lump in my throat gets bigger and bigger as I watch these hardened warriors so intent upon his foolish, though touching, little game; for I know that every lonely fellow is thinking, not that in one or two or more days he's going back to what in stoic derision he terms "home," but that some one, somewhere, is thinking about him and worrying about him and loving him too.

The joker of the party comes to me with a perfectly enormous leaf, which he informs me he has plucked for his mother-in-law; and when I ask him if he has a mother-in-law, he answers: "No, but I might have one some day." Another young devil shows me a leaf even larger, and when I naturally ask who is to get that, he says, "It's for the Kaiser." And a third presents a leaf so small that I smile at its absurdity in a hand so big and hard. His mouth quivers ever so slightly as he tells me it is for his mother, who is the only one on earth who cares for him.

By and by thirty-two infinitesimal ivy leaves are carefully placed in thirty-two safe places. Did I say thirty-two? Well, I should have said thirty-four, for I catch one chap hoarding away three. I laughingly admonish him to be careful not to send them all to the same town, for "girls will tell, you know." By way of reply he pulls a post-card photograph out of his pocket and says, "Here's why I must have three," and I see the picture of a nice-looking young woman and two babies.

A TOUCH OF SENTIMENT AMONG SOLDIERS

A red-haired, peppery-looking little man is horribly embarrassed because in putting his leaf into his note-book something has fallen out. It is, he tells me, the last thing his wife gave him—a thing which had been a pink rose, a paper one, if you please. She had made it herself and thrown it into the train window when he waved goodby, more than two and a half years ago.

Somehow this little touch of sentiment seems to have drawn us all closer, and we resume our tour the better for our short mental visit home. The "Infant" seems pretty silent until he spies a stand where weak lemonade, warm beer, and small cakes are to be bought. He returns with hands full of the latter, and when I reprimand him, because he knows we are all to have refreshments later, he tells me that never could he wait that long.

So we eat the hard ginger cookies as we watch some small boys sailing tiny boats in a fountain. The "Infant" tells me, in a burst of confidence, that he's got a boat "just like that" at home. His mother is saving it, though he doesn't know why.

We stroll along leisurely, to stop a moment before a huge likeness of Louis in marble, disguised as a Roman emperor. The "Infant," playing with the naked toes, begins: "This little pig went to market, this little pig stayed at home." As I give his arm a little squeeze I ask him if he ever gets homesick. He admits it freely. And when I want to know if he has ever cried, I see him hesitate for just a second; then he bursts out in a very fury of rage: "Yes, I cried when a guy killed the Fritzie who was my meat."

A BATTLE ROYAL OVER THE MENU

After a hasty look at some of the things which the guide-book says one must see, thirty-two pretty tired young men sink into chairs under red and white striped umbrellas in front of a charming little restaurant. Two remained outside, so I send a runner to find out if they are neither hungry nor thirsty. He returns at once with the two; also with an explanation, interlarded with many swear words, that "of course, they are both; but they thought you were going in to see some blankety blank art."

Now comes a battle royal. It is indeed difficult to discover how many want ham, how many beef, and how many veal sandwiches. I know that no one wants cheese. Cheese is a horror second only to "posie," which is marmalade, and "Charlie Chaplin wedding cake," which is hardtack.

I ask one boy what he will have, and he answers unsmilingly, "Hot waffles;" a second says his will be "Strawberry shortcake," and a third wants "A barrel of beer and a quince." When the thing seems to be growing hopeless I tell every fellow who wants ham to raise his hand. One boy raises both, and when I demand why, he tells me, "Because I want two."

Next we take up the question of the drinks and by and by we get that settled. The little white plates, the pearl-handled knives, and the dainty, clean napkins are so enjoyed. Some one remarks that the latter would make good souvenirs. Of course, he's a "Canuck." He'll tell you himself that "the English fight for honor, the French for glory, and the Canadians for souvenirs." He goes farther and swears that the general understanding on the field is that when a Fritzie is found lying on his tummy it's a sign that he's been "picked," so no use bothering with him.

Some one is heard to say: "Voolyvoo, shoot the salt, cherry," and some one else remarks that he "likes the sample." I don't believe many things can disappear with greater rapidity than a thinly cut, delicious sandwich in the hands of a hungry soldier. Before the last bit is eaten the order for a second round has been given. The waiter's mad attempt to get the order right makes a New Zealander remark that "this will be in the communique tomorrow." Another, apropos of nothing, says that Paris is the only part of France worth fighting for, and that if it were left to him, he'd give the dern country to the Boches and apologize for the looks of it.

SENDING SOUVENIRS HOME

A dozen others take advantage of the wait to ask me if I could possibly send their books of post-cards home. I assure them that I will do so gladly. At which a middle-aged man, who has hardly spoken during the afternoon, wants to know if I ever send parcels for the men. I tell him I do it every day in the week. After a second's hesitation, he says: "But perhaps, lady, you wouldn't care about wrapping up this particular thing." I insist upon knowing what he means. He explains: "I'm a seafarin' man meself, lady. I 'bin purty near all over this here world. An' ever' place I bin I brought a souvenir from. Yesterday I got a corkin' good one. I visited the big crematory; I got there jest in time to see a dead one goin' in the heater. It wasn't long afore I saw the thing pulled out. I hops in and grabs a little bone. It was hot. Wouldn't you like to see it?"

After the second sandwich we have cakes all around—lots of them. Thirty-two fighters can eat quite as many cakes as thirty-two small boys, maybe more. When everybody's "got a light" we begin to feel really acquainted. No one seems in a hurry to move. Everything is so peaceful that I haven't the heart to announce that we're going to miss our train unless we start.

Anyway, there are other trains and the sunset on the artificial lake is very beautiful. The long expanse of grass, so prettily called the "Green Carpet," is restful to eyes accustomed to shell holes and the devastation of northern France. Unconsciously we become very still. I don't know how long we'd remain here contentedly dreaming were it not for the waiter's very obvious desire to clear the tables.

So I reluctantly call for the bill, which is immediately taken from me by a big, jolly, monkey boy. He glances at it, falls back in his chair and screams: "Quick, quick, give me my gas mask." He divides the total by fifty-two, for of course the "commanding officer" does not pay. When she attempts to do so, there is a perfect tumult of protestation, and a "Don't insult us like that, please," from all sides.

THE RETURN TO PARIS

When the waiter has been made deliriously happy over the size of his tip, we get up lazily and a little sadly. We saunter leisurely for a parting look at Apollo and his car and his big bronze horses. We look for the last time at the row-boats on the lake and at all the dreamy beauty around us, and in the stillness of the summer evening we follow the wide path back to the palace, now a marvel of old ivory in the soft light. It is so easy to imagine the vast terrace filled with ladies in wide skirts and gentlemen in white knickers. But we are brought back to stern reality by the whir of an aëroplane over our heads and some one almost moans, "You can't get away from it."

We again cross the old, cobble-stoned courtyard and come again to the tall bronze gates. The artist remains behind a moment to study their carving. We continue on to the right, and in a few minutes are back in the station. A busy, buzzing little sergeant counts up for me as the men come along. When I am positive that not one has fallen by the wayside, I again buy thirty-two tickets for soldiers and one for the one a nice boy calls "The Queen Bee." Again there is the scramble for seats in the train, and just as the whistle blows, I jump in myself, assured that no one is left behind.

BACK TO THE FRONT

In a short thirty minutes we are back in town, and once more I stand with my afternoon's companions about me. They shake my hand, and each in his particular way tells me that it has been a perfect day. They don't all express it that way, of course. One says, "Top hole;" another calls it "Bonza;" a third, "Sim-play rippin';" and a fourth, "Some trip." Here, without the slightest warning, the "Monkey Boy" proposes "three rousing cheers" for a much embarrassed little lady. They are given so lustily that small boys and old ladies and men of all ages hasten towards us to find out what it's all about.

A first taxi appears. I pack five into it, give the various addresses to the chauffeur, and to shouts of "See you tomorrow in 'Blighty,' sister," I wave them off. A second car pulls up at the curb and five more leave me, pleasantly tired and seem-

Photograph from Harriet Chalmers Adams

FRENCH SOLDIERS MARCHING ON THE RUE ROYALE

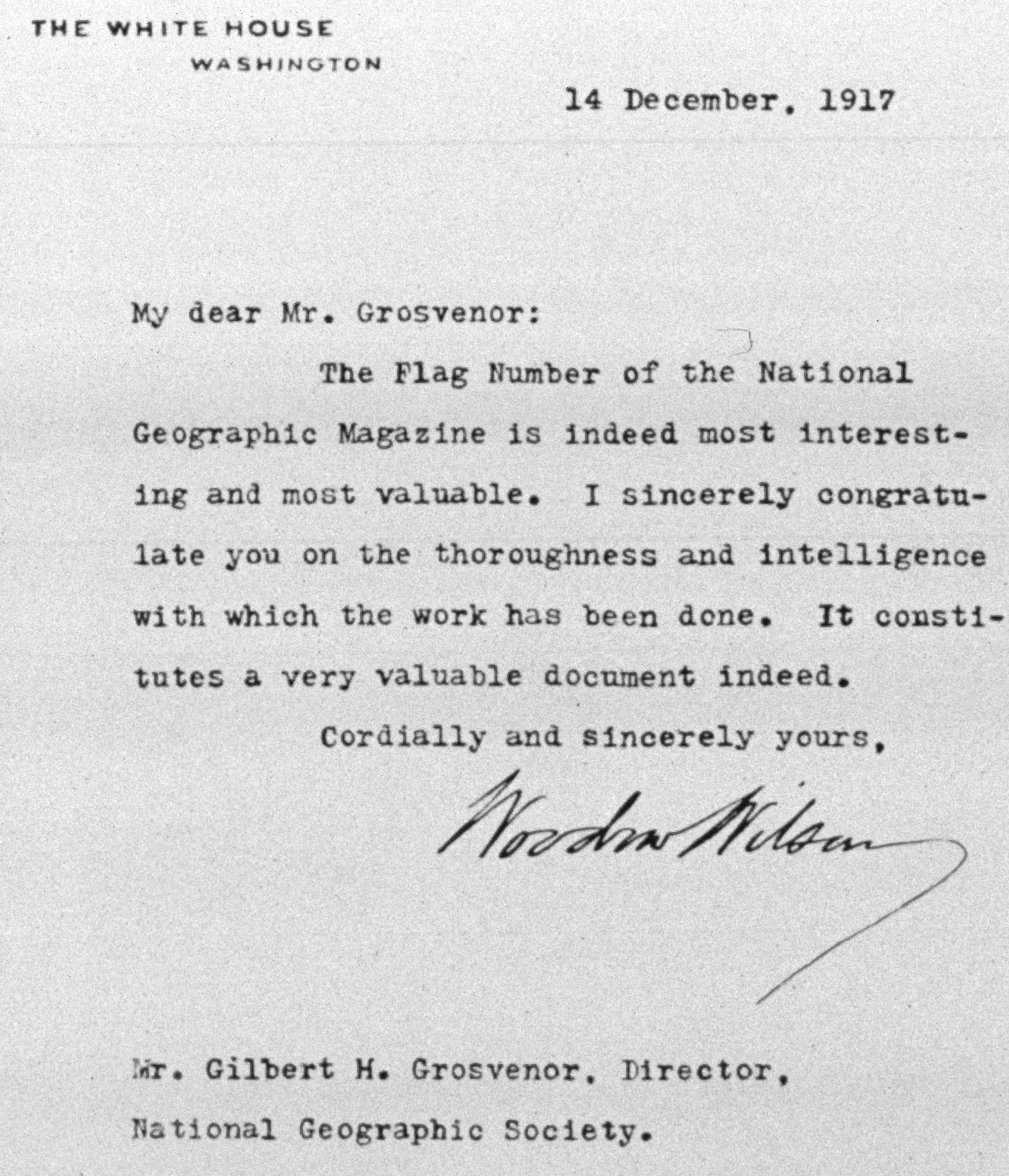
ingly happy, and oh, so grateful. Each new taxi takes its load, until presently only the "Monkey Boy," the "Infant," and myself are left. The baby soldier doesn't seem to mind that the big fellow's arm is around his shoulder—in fact, he seems to like it. I direct our driver to take me home first, because they want a longer ride, they tell me.

As we speed along, in spite of my best efforts the conversation lags; then dies utterly. A deep gloom seems to have settled upon my two companions, and suddenly I begin to understand; for I know the look which says, "I am leaving all this behind." I sense the heartache behind the smiling face. I feel the utter cruelty of it all, so I don't talk about it. When it comes time for us to part I only ask, "And so you two are going out to-night?" The brave little "Infant" grins painfully as he tells me: "Yes, for us it's over the top and the best o' luck." So I say, "God bless you."

It's all one can say, you know.

THE MID-WINTER NUMBER

The unprecedented achievement of successfully completing 23,000,000 pages of four-color, as represented in the 700,000 copies of the Flag or October Number of the National Geographic Magazine*—work which could only be done in the hours of daylight, because of the necessity for perfect registration—together with delays in delivery, owing to the congestion of transportation, seriously retarded the early completion of that truly remarkable issue. It therefore has been deemed advisable to incorporate the contents of the November and December* Geographic *in this one issue, as the mid-winter number.*



THE WHITE HOUSE
WASHINGTON

14 December, 1917

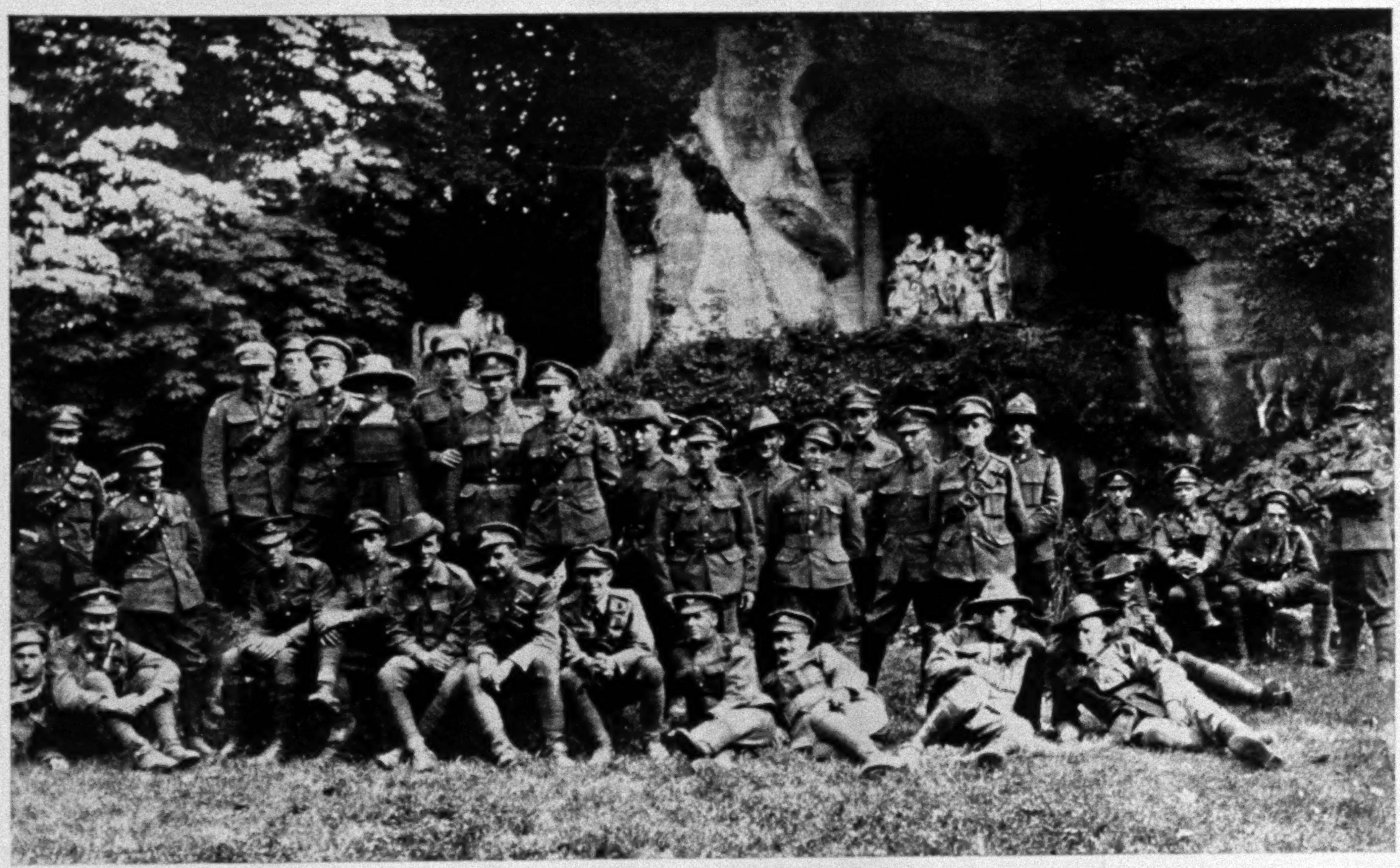
My dear Mr. Grosvenor:

The Flag Number of the National Geographic Magazine is indeed most interesting and most valuable. I sincerely congratulate you on the thoroughness and intelligence with which the work has been done. It constitutes a very valuable document indeed.

Cordially and sincerely yours,

Woodrow Wilson

Mr. Gilbert H. Grosvenor, Director,
National Geographic Society.



THE SOLDIERS' FRIEND AND HER ESCORT IN THE GROTTO OF APOLLO AT VERSAILLES (SEE PAGE 543)

"We step from the brilliant sunshine of the open garden into a bit of exquisite old forest, delightfully cool and absolutely still. My weary wanderers fall upon the grass in attitudes of, I might almost say, abandon. The Grotto of Apollo? 'Oh yes, that's the place where Looey is getting washed by those women,' ventures a breezy farmer from New Zealand. And I pretend not to hear him nor the 'S-h-h-h-h!' from every side."

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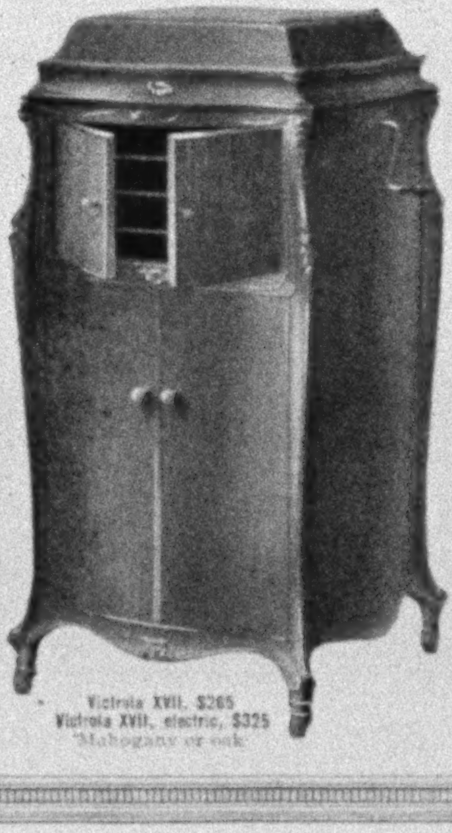

Victrola XVII, $265
Victrola XVII, electric, $325
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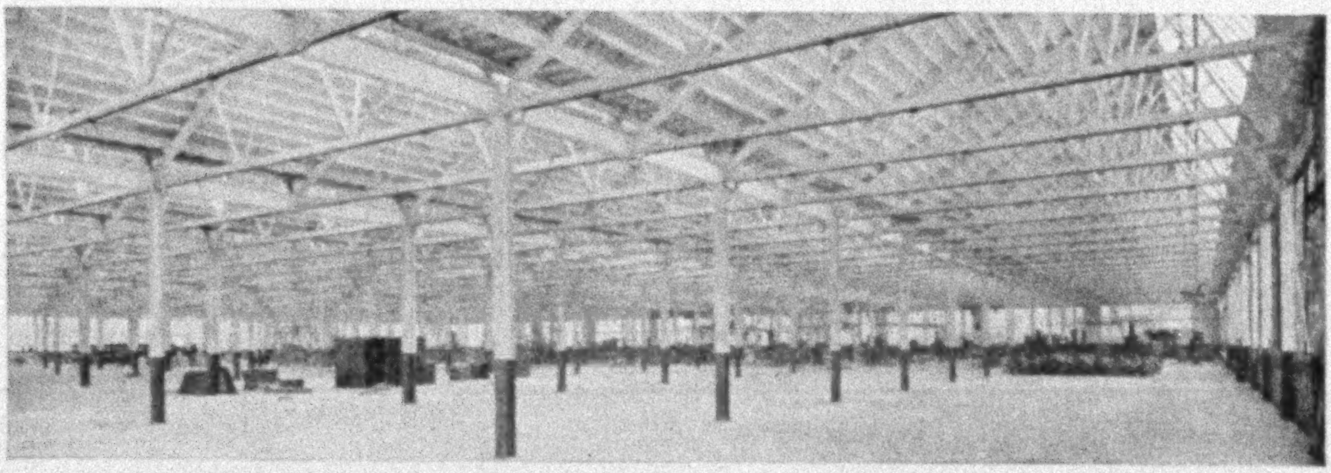
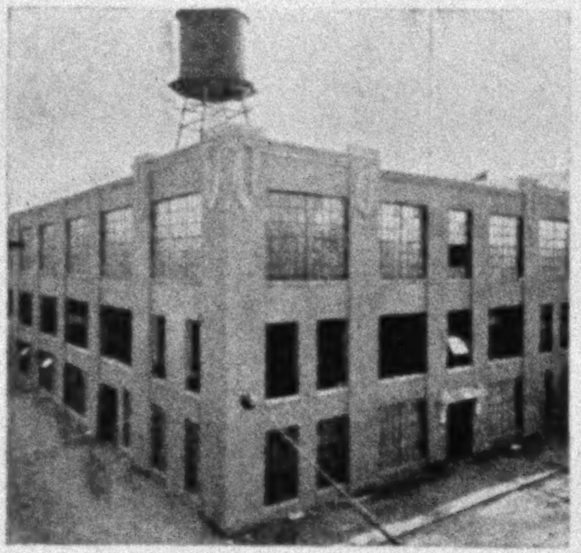


This Austin Standard Type No. 4 Building, 300 ft. x 300 ft., a 60-day building, was ready for the Nordyke & Marmon Co., Indianapolis, two weeks ahead of time. On this performance record, the owner ordered another, and larger, building.

Austin Standard Factory-Buildings



We built this building, Austin Standard No. 9 mill-type construction, 80 ft. x 308 ft., 3 stories, for the Pittsburgh Transformer Co., Pittsburgh, in 78 working days, finishing the building proper several days ahead of schedule.

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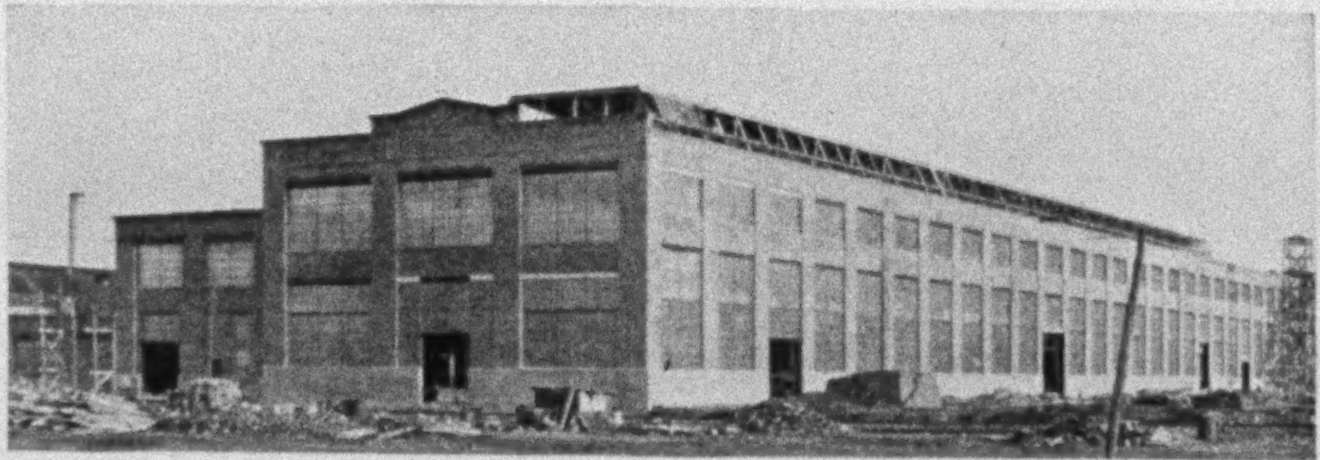
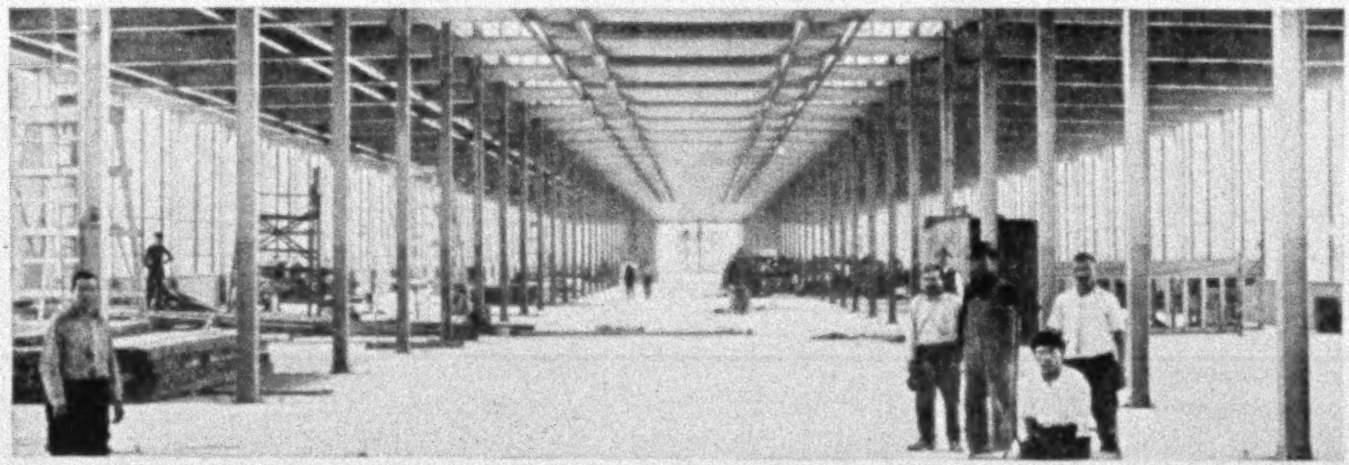
"***Results, not Excuses,***" is the slogan on the cover of our new catalog. It is worth your while to send for this if you need a new building. Write, phone, or wire the office nearest the prospective work.



This foundry building, 120 ft. x 480 ft., for the General Electric at Schenectady, contracted for on 60-working day schedule, was completed one week ahead of time.



This building was ready for the New York Air-Brake Company at Watertown, N. Y., 10 days ahead of completion schedule. Our record here brought orders for four more buildings for the same owner, all larger than this one.

Ready for the Owner Ahead of Time

THIS sureness of results in meeting your needs for factory space means that you can close that pending contract, order your equipment and materials, order an Austin Factory-Building to house them, and that building will be ready *on time or ahead of time.*

Owners have found this same sureness of results in retaining us to handle, from start to finish, industrial building problems of any size or kind.

With our comprehensive, well-distributed organization we take the responsibility for the successful design, construction, and equipment of complete factories, power plants, etc.

We do the engineering work, either in our office, or we lend you our engineers to act as a part of your staff, to develop your own ideas, in your own plant.

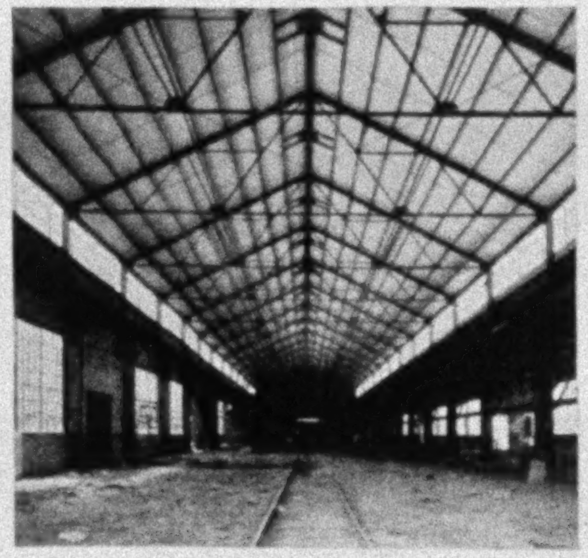
Using the Austin Organization for the entire work means *unit responsibility*—a short phrase, but full of meaning to the experienced.

THE AUSTIN COMPANY

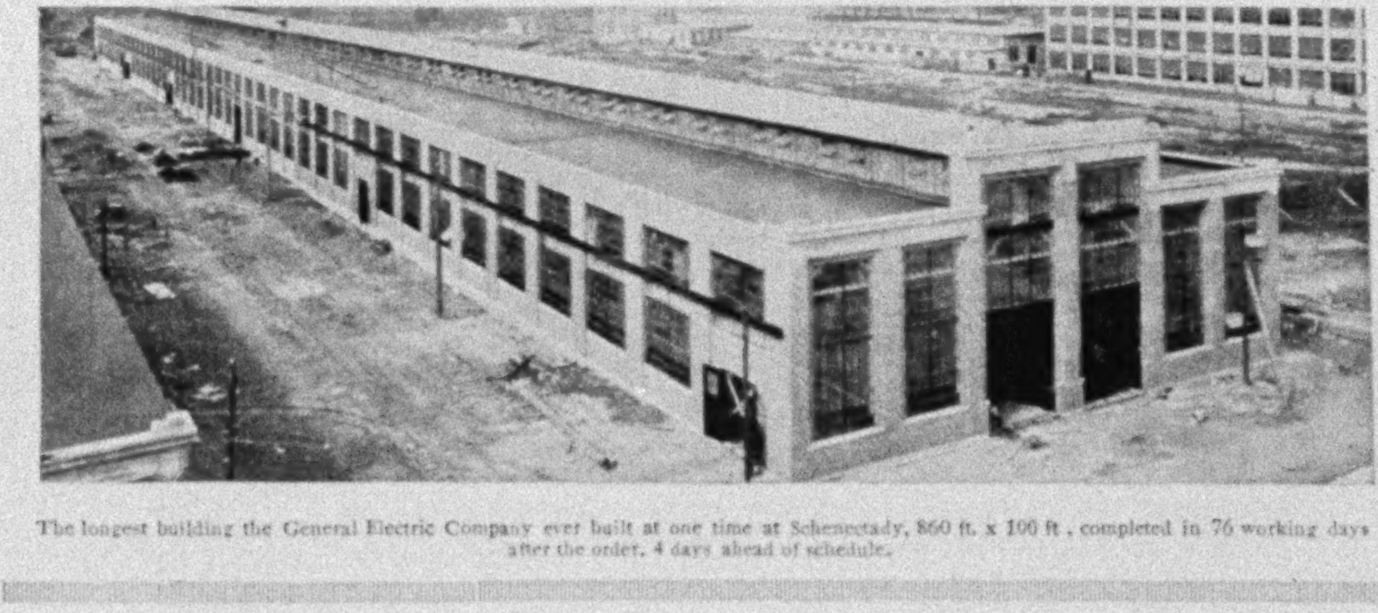
INDUSTRIAL BUILDERS **Cleveland, Ohio**

New York Philadelphia Pittsburgh Detroit Indianapolis

Export Representative: American Steel Export Co., Woolworth Bldg., New York



Contracted for on a 70-day schedule, we finished this foundry building for the General Electric Company at Lynn, Mass., 16 days ahead of time. The building is an extension of an older one. Note the better lighting in the new building.



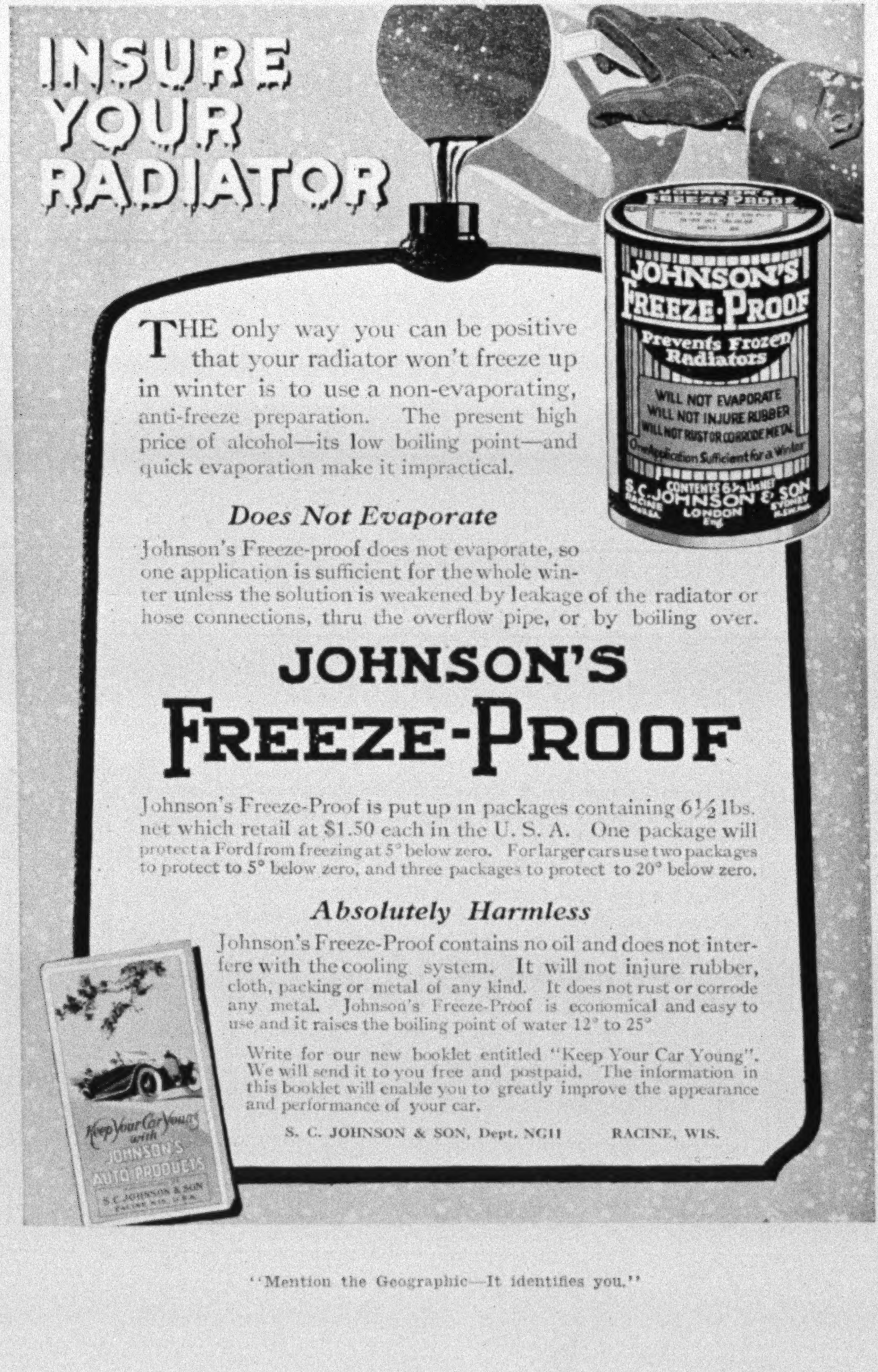
The longest building the General Electric Company ever built at one time at Schenectady, 860 ft. x 100 ft., completed in 76 working days after the order, 4 days ahead of schedule.

Keep Your Kodak Busy.

"The Army lives on letters" is the way the boys at the front put it. And when those longed-for envelopes with the home town postmark contain pictures of the home folks and home doings, they go far toward making lighter hearts and happier faces.

Keep your Kodak busy for the sake of the lads in the trenches, the boys in camp and on shipboard. Help keep tight the bonds between the home and those who are fighting for that home.

EASTMAN KODAK CO., ROCHESTER, N. Y., *The Kodak City.*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FREEZE-PROOF
Prevents Frozen Radiators
WILL NOT EVAPORATE
WILL NOT INJURE RUBBER
WILL NOT RUST OR CORRODE METAL
One Application Sufficient for a Winter
CONTENTS 6½ Lbs NET
S.C. JOHNSON & SON
RACINE WIS. U.S.A.
LONDON Eng.
SYDNEY N.S.W. Aus.
Keep Your Car Young with
JOHNSON'S AUTO PRODUCTS
S.C. JOHNSON & SON
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INSURE YOUR RADIATOR

THE only way you can be positive that your radiator won't freeze up in winter is to use a non-evaporating, anti-freeze preparation. The present high price of alcohol—its low boiling point—and quick evaporation make it impractical.

Does Not Evaporate

Johnson's Freeze-proof does not evaporate, so one application is sufficient for the whole winter unless the solution is weakened by leakage of the radiator or hose connections, thru the overflow pipe, or by boiling over.

JOHNSON'S FREEZE-PROOF

Johnson's Freeze-Proof is put up in packages containing 6½ lbs. net which retail at $1.50 each in the U. S. A. One package will protect a Ford from freezing at 5° below zero. For larger cars use two packages to protect to 5° below zero, and three packages to protect to 20° below zero.

Absolutely Harmless

Johnson's Freeze-Proof contains no oil and does not interfere with the cooling system. It will not injure rubber, cloth, packing or metal of any kind. It does not rust or corrode any metal. Johnson's Freeze-Proof is economical and easy to use and it raises the boiling point of water 12° to 25°

Write for our new booklet entitled "Keep Your Car Young". We will send it to you free and postpaid. The information in this booklet will enable you to greatly improve the appearance and performance of your car.

S. C. JOHNSON & SON, Dept. NG11 RACINE, WIS.

ACHIEVEMENT

Twenty-five years ago the General Electric Company was founded.

Since then electricity has sent its thrill through the whole structure of life.

Eager to turn wheels, to lift and carry, to banish dark, to gather heat, to hurl voices and thoughts across space, to give the world new tools for its work—electricity has bent to man's will.

Throughout this period the General Electric Company has held the great responsibilities and high ideals of leadership.

It has set free the spirit of research.

It has given tangible form to invention, in apparatus of infinite precision and gigantic power.

And it has gone forth, co-operating with every industry, to command this unseen force and fetch it far to serve all people.

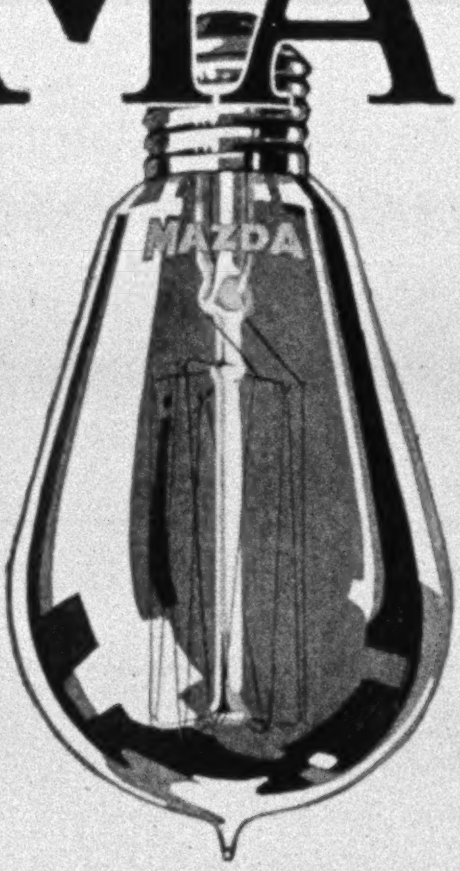
By the achievements which this company has already recorded may best be judged the greater ends its future shall attain, the deeper mysteries it yet shall solve in electrifying more and more of the world's work.

7317

GENERAL ELECTRIC COMPANY

"Not the name of a thing, but the mark of a service"

MAZDA



MAZDA Service, a systematic research for making lamps more economical

THE MEANING OF MAZDA—MAZDA is the trademark of a world-wide service to certain lamp manufacturers. Its purpose is to collect and select scientific and practical information concerning progress and developments in the art of incandescent lamp manufacturing and to distribute this information to the companies entitled to receive this Service.

MAZDA Service is centered in the Research Laboratories of the General Electric Company at Schenectady. The mark MAZDA can appear only on lamps which meet the standards of MAZDA Service. It is thus an assurance of quality. This trademark is the property of the General Electric Company.

RESEARCH LABORATORIES OF GENERAL ELECTRIC COMPANY

4635

How one man is fulfilling his duty to home and country

A YOUNG business man made up his mind to drive an ambulance in France, and before he left for the front he put all his funds into approved securities. He then made a trust agreement with us under which we have taken over the entire management of these investments.

Each month we are to send a certain sum to his mother and sisters, to maintain them in the comfort to which they have been used. The rest of his income is to be placed in his bank account, on which he can draw drafts either while abroad or when in this country.

If the care of your family and your property stands between you and your service to your country, consult our Trust Department officers. We may be able to show you how we can relieve you and your dependents of all worry about the management of your financial affairs.

BANKERS TRUST COMPANY
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in the

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The Membership Fee Includes Subscription to the National Geographic Magazine

DUES: Annual membership in U. S., $2.00; annual membership abroad, $3.00; Canada, $2.50; life membership, $50. Please make remittances payable to National Geographic Society, and if at a distance remit by N. Y. draft, postal or express order.

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191

To the Secretary, National Geographic Society,
Sixteenth and M Streets Northwest,
Washington, D. C.:

I nominate

Address

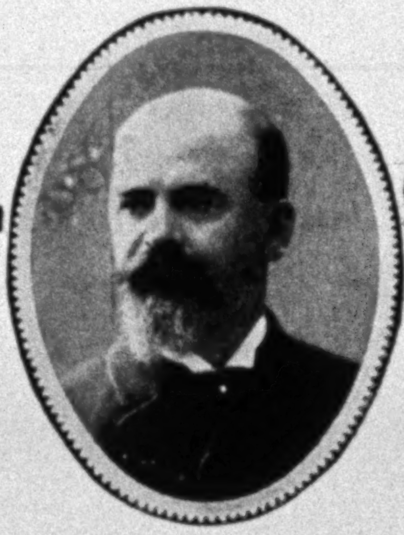
for membership in the Society.

11-17

(Write your address)

BEEMAN'S

ORIGINAL PEPSIN



CHEWING GUM

I PUT PEPSIN INTO GUM

Pepsin had long been famous as a relief for indigestion. Yet no one had thought of using Pepsin in chewing gum.

As a food chemist I saw its wonderful possibilities. So I devised my own formula for gum. I included pure Pepsin and the finest of chicle. Thus I produced Beeman's—the original Pepsin Chewing Gum.

As a preventive or relief for indigestion, or all other ailments induced by indigestion, I believe my chewing gum is unexcelled.

Dr E. E. Beeman

Doctor E. E. Beeman

BEEMAN'S
ORIGINAL PEPSIN
CHEWING GUM
Good for Digestion
BEEMAN'S

CHICLE

AMERICAN CHICLE COMPANY

W·C·K· Speed Up Concentration

ENGINEERS and CONSTRUCTORS

A purely engineering organization with nothing to sell except services.

W·C·K

After months of cantonment work had almost stripped the labor and material markets, the Government called on W. C. K. to build the Concentration Camp at an Atlantic port.

The project, consisting of many separate pieces of work, miles apart, embraces the construction of two large camps, two great warehouse groups, hospitals, streets, sewers, etc.—a complete city to comfortably house and maintain thousands of our troops before they sail overseas.

A force of thousands of men was organized and maintained, the hundreds of buildings were constructed, and miles of sewers were built in quicksand, but completed on time.

W. C. K. specialize in the design and construction of railroad shops and terminals, power plants and industrial plants of any character.

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As a Change of Diet Try **Spratt's Fibo,** the Most Palatable and Enticing Dog Food on the Market.

Write for samples and send stamp for Catalogue on Dog Feeding.

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$5

Help Save the Song Birds

The song Birds will prove a very great asset in the present war. They destroy the insects and save millions of bushels of grain annually. It is your duty to protect them; furnish them homes for raising their young this Spring. You will be repaid a thousand fold. They will free your home and grounds from insects and pests, and gladden your heart with their beautiful songs.

A Dodson Bird House

for every kind of bird. You can attract any bird you want—simply put up a Dodson House and they will come back year after year. FREE Bird-Book sent on request. Illustrates Dodson line, giving prices. Also beautiful colored bird picture free. Write today to

JOSEPH H. DODSON
Vice-Pres., American Audubon Assn.
702 Harrison Ave. Kankakee, Ill.

Dodson's Sparrow Trap guarantees to rid your community of these grain-eating pests. Price, $6.00

$5 for this 4-room Wren House

Built of Oak Cypress Shingles Copper Coping

Protection of Birds as a War Measure

Your choice of above three for $2.50, the three for $7.

All the old patterns at former low prices. Booklet with every order. Free circular.

A. P. GREIM, "Birdville," Toms River, N. J.

Saving Food on the Union Pacific

1864

1917

FROM day to day the Union Pacific is co-operating with the Government in different branches of war work. As an example, every suggestion of the U.S. Food Administration is followed immediately and conscientiously on Union Pacific Dining Cars.

Bordering the Union Pacific are the Nation's greatest agricultural states, bounteous producers of grain, cattle, hogs, beet sugar, fruit, vegetables, poultry and dairy products from which our Commissariat replenishes its larders with choice foods.

But few readjustments have been necessary to carry out the plan of using chiefly fresh and perishable products. Sea food from the Pacific, trout from mountain streams, game in season, fresh vegetables and fruit have long been the delight of Union Pacific passengers.

So the nation-wide observance of meatless Tuesdays and wheatless Wednesdays, suggested by the Food Administration to help win the war, is made easy for Union Pacific patrons.

Passengers on our trains are gladly joining in this patriotic duty. They find that our chefs are stimulated to new efforts. Menus gain new interest.

For half a century the Union Pacific—in war and peace—has fulfilled its Federal obligations.

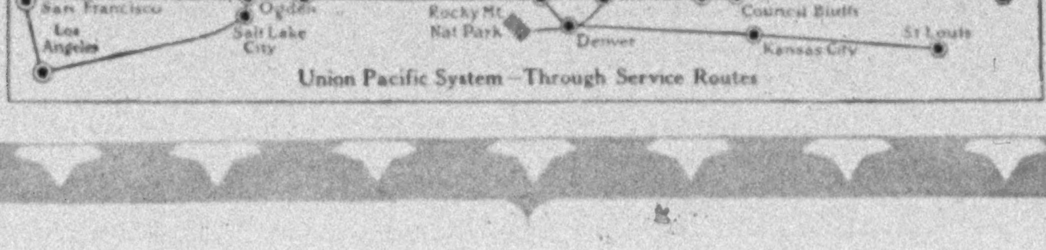
Typical war menus are sent free on request.

UNION PACIFIC SYSTEM

Joins East and West with a Boulevard of Steel

For information write to

Gerrit Fort, *Passenger Traffic Manager*, Union Pacific System, **Chicago**


Seattle
Tacoma
Spokane
Butte
Yellowstone
Pendleton
Portland
Pocatello
Granger
San Francisco
Ogden
Los Angeles
Salt Lake City
Cheyenne
Julesburg
Omaha
Minneapolis
St Paul
Chicago
Rocky Mt. Nat Park
Denver
Council Bluffs
Kansas City
St Louis

Union Pacific System—Through Service Routes

XUM

National Geographic Society Ward

IN THE

American Ambulance Hospital
Neuilly, Paris, France

Eager to contribute their share in mitigating the suffering which will be the lot of many of our boys who are now or who soon will be in France fighting the battle of civilization for those who must remain at home, members of the National Geographic Society are subscribing to the fund for the establishment of a

National Geographic Society Ward

in the American Ambulance Hospital at Neuilly, in the environs of Paris.

A host of members of the National Geographic Society or their sons have themselves enlisted in the armed service of our country, and it is comforting to picture the feeling of gratitude which they will experience if, in the hazard of war, they are brought into a completely equipped Ward of this wonderful American institution which has been doing such noteworthy work for stricken France since the first days of the great struggle.

The American Hospital at Neuilly is housed in a splendid four-story structure built around the sides of a beautiful court. It accommodates daily in the main building and auxiliary hospitals 1,500 patients. The average number of patients in the main institution is 454 a day.

Subscriptions in any amount sent to the National Geographic Society for the Geographic Ward will be wisely expended, without one dollar of overhead expense. Each contributor may feel secure in the knowledge that every penny given will alleviate the suffering, add to the comfort, or assist in the restoration to health of some American soldier who has risked life and limb in the cause of his country.

THE NEED IS INEVITABLE!
SUBSCRIBE NOW!!

Send all remittances to

Gilbert H. Grosvenor, *Chairman,*
National Geographic Society,
16th and M Sts., Washington, D. C.

EQUIPMENT IS NEEDED

for the

National Geographic Society Ward of Twenty Beds

in the

AMERICAN AMBULANCE HOSPITAL
NEUILLY, PARIS, FRANCE

(Now U. S. Military Hospital No. 1)

Members of the National Geographic Society are generously contributing to the establishment of a special ward of 20 beds in the great hospital in the French capital, where America's wounded and sick from the front-line trenches are given every care and comfort to alleviate their sufferings and restore them to health.

Opportunity is now afforded members of the Society to help equip the Geographic Ward with necessary articles. The following periods have been especially dedicated for contributions:

SHEET WEEK—**Beginning January 28**

(Bleached or unbleached sheets, not less than 102 inches long and 64 inches wide. They may be longer or wider, as desired.)

PILLOW-SLIP WEEK—**Beginning February 4**

(Of bleached or unbleached muslin, 36 inches long by 21 inches wide when finished.)

TOWEL WEEK—**Beginning February 11**

(Both plain and bath towels are in great demand, and the supply must be constantly augmented.)

GARMENTS WEEK—**Beginning February 18**

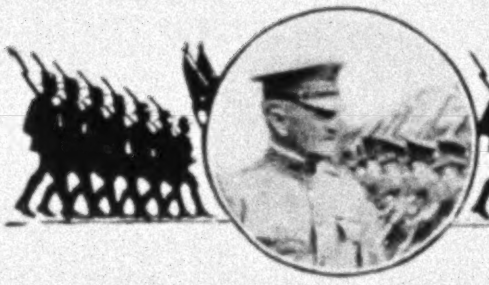
(Pajamas and hospital bed shirts, bath robes, bed socks, bed jackets and underwear are welcomed.)

SUNDRIES WEEK—**Beginning February 25**

(Wash-cloths, handkerchiefs, both colored and white; comfort pillows of all sizes and shapes, and bright-colored bags for patients' personal belongings are in great demand.)

All equipment intended for the National Geographic Ward should be sent, express prepaid to

The National Geographic Society,
16th and M Streets N. W.,
Washington, D. C.



The Pershing parallel

And how it hits home to You

General Pershing knew military fundamentals. That's why he was chosen to lead our expeditionary forces in France.

But with all his Army experience, Pershing realized the need for a mastery of the more recent developments of warfare.

From the moment of his arrival in Europe he has been in almost constant consultation with the great generals—Joffre, Castelnau, Foch, Haig, Petain.

From these conferences he has gained a firmer grasp of the fundamentals of war. He has learned thru them the right course to pursue—the mistakes to avoid.

General Pershing was a great soldier when he left our shores. Today he is a greater soldier. By absorbing the first-hand experiences of others he has multiplied many times his fund of military knowledge.

The need for training

The wisdom of Pershing's course points a strong object lesson in business.

To be a great business man requires much the same qualities as to be a great general, and there is no doubt that thoro scientific training will prove equally advantageous to both.

You men whose ambition prompts you to grow to bigger jobs—to greater responsibilities—will you attempt to grow along the narrow confines of your own experience?

Will you adopt hit-or-miss methods of gathering business information thru mere contact with your own business and with those who directly or indirectly may be in touch with you in your business?

Or will you parallel the course Pershing followed?

Will you consult the great business generals and obtain a sound, solid, business training by a mastery of the fundamentals which underlie all business?

A short-cut to business knowledge

The Modern Business Course and Service of the Alexander Hamilton Institute presents organized business in a systematic, time-saving form.

It embraces a thoro, comprehensive presentation of business fundamentals.

From the heads of big business down to the juniors whose ambitions are to be the heads later in life, the Modern Business Course and Service is used as a preparation to bigger achievements.

Today the demand for trained executives is increasing. The business barometer points to even greater demand in the future. The man who is prepared with a sound business training is not only able to respond and make good when opportunity presents itself, but has the power within him to *create* opportunity.

The kind of men enrolled

Presidents of big corporations are often enrolled for this Course and Service along with ambitious young men in their employ.

In the Standard Oil Company, 291 men are enrolled in the Alexander Hamilton Institute; in the U. S. Steel Corporation 450; in the National Cash Register Co. 194; in the Pennsylvania Railroad 108; in the General Electric Co. 300—and so on down the list of the biggest concerns in America.

Advisory Council

Business and educational authority of the highest standing is represented in the Advisory Council of the Institute.

This Council includes Frank A. Vanderlip, President of the National City Bank of New York; Judge E. H. Gary, head of the U. S. Steel Corporation; John Hays Hammond, the eminent engineer; Jeremiah W. Jenks, the statistician and economist, and Joseph French Johnson, Dean of the New York University School of Commerce.

Get further information

A careful reading of the interesting book, "Forging Ahead In Business," which we will send you free, will show you how to prepare for the increasing number of business opportunities that are bound to come during the next few years. Every man with either a business or a career to guide to bigger, surer success should read this book. Simply fill out and send the coupon below.

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Send me "FORGING AHEAD IN BUSINESS"—Free

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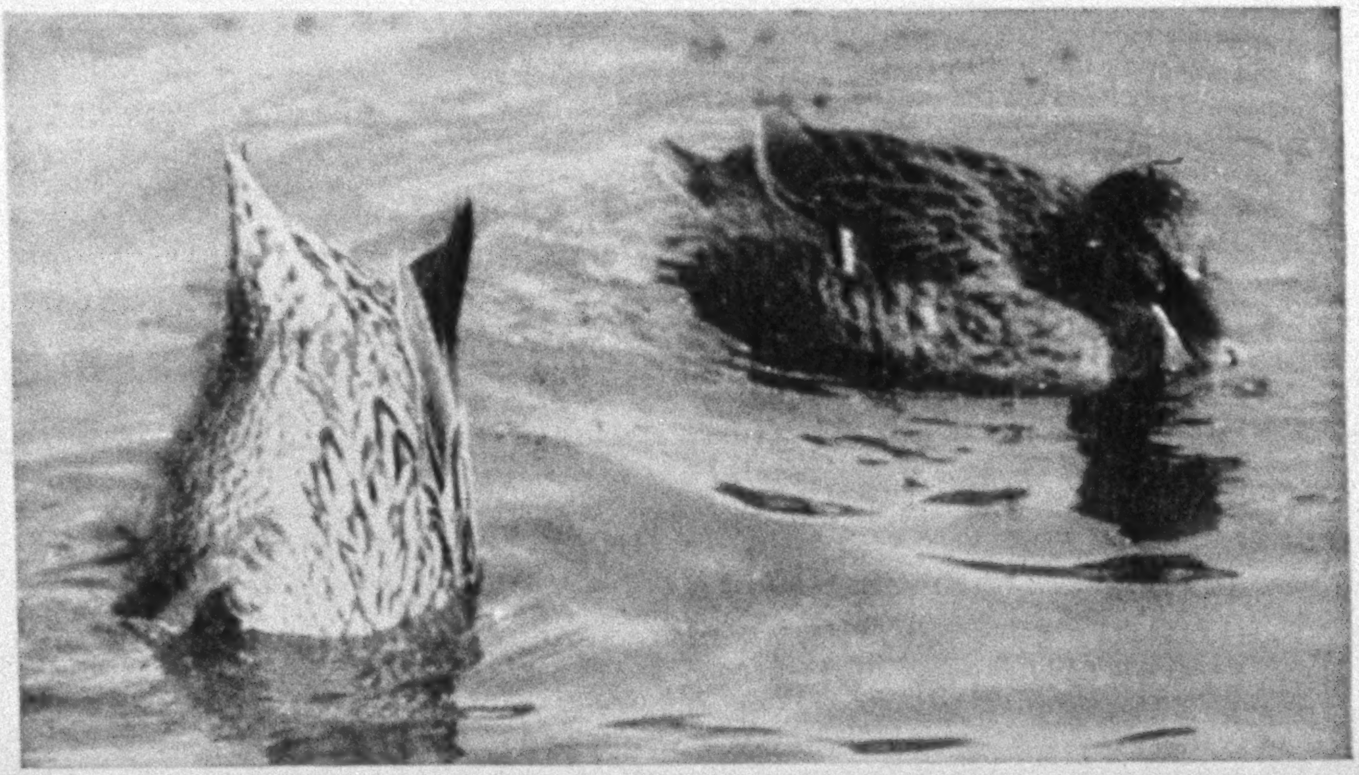

A HAPPY FAMILY: MALLARDS "TIPPING UP" ON THE LOUISIANA STATE GAME PRESERVE

The water bottoms of the lowlands grow duck food in abundance

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Make Friends with Nature's Feathered Wards in

THE BOOK OF BIRDS

200 Pages, Illuminated with 250 Matchless Subjects in Full Colors, 45 Illustrations in Black and White, and 13 Striking Charts and Maps

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No other Nature-book ever published at a moderate price equals The Book of Birds in the beauty of its illustrations, the fascinating quality of its authoritative text, and the charming intimacy with which it introduces the reader to shy Friends of Forest and Countryside, Seashore and Upland.

The three principal divisions of this beautiful book are the contribution of the gifted ornithologist and facile author, Henry W. Henshaw, formerly Chief of the United States Biological Survey. Dr. Henshaw possesses to a marked degree the rare faculty of describing the haunts and habits of Nature's wild creatures with the ease and grace of the born story-teller and with the insight and knowledge of the scientist equipped by wide experience and exhaustive research. And no author has ever had a more gifted or more sympathetic illustrating collaborator than has Dr. Henshaw in the noted naturalist-artist, Louis Agassiz Fuertes, whose 250 bird portraits, reproduced in full colors in this superb volume, have preserved with wonderful fidelity not merely the richness of tint in plumage but the animation and the personality, so to speak, of each subject.

An engaging chapter is contributed by F. H. Kennard on "Encouraging Birds Around the Home." Mr. Kennard persuades the reader to become a conserver of bird life, whether he be the possessor of a great estate or the owner of a window-sill.

That mysterious impulse which Nature has implanted in so many of her creatures—the migrating instinct—is the subject of a wonderful chapter by Professor Wells W. Cooke.

George Shiras, 3rd, noted as a traveler and naturalist and as the inventor of a method whereby birds and wild animals make their own portraits, gives a delightful account of photographing wild birds with a flashlight camera.

The Book of Birds is a gift to delight the naturalist who can spend days in the forest, the business man who has only an occasional hour in the woods, or the man or woman whose sole acquaintance with birds is made in the city parks. Placed in the hand of a boy or girl, it will inculcate an imperishable love of Nature and Nature's winged children.

— — — — — — — — — — — — CUT ON THIS LINE — — — — — — — — — — —

DEPT. H, NATIONAL GEOGRAPHIC SOCIETY, ..., 191
16th and M Streets, Washington, D. C.

Please send.........copies of "THE BOOK OF BIRDS," bound in...................................

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If several copies are desired, write names and addresses and send with your card.

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Bound in Royal Buckram, postpaid in U. S., $2.00
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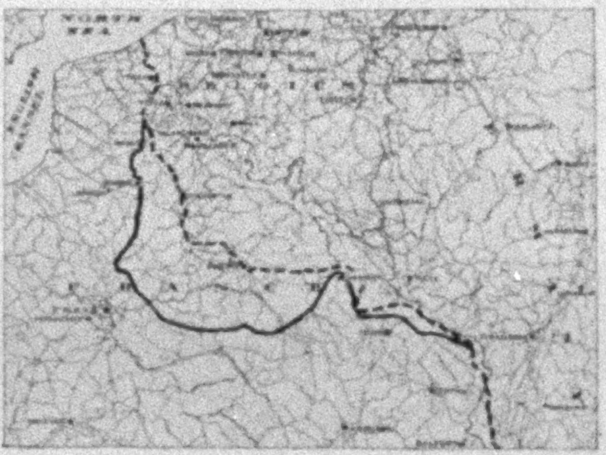
12-17

Peace by Summer?

Why *Roulers* May be the Kaiser's Waterloo

THERE is no doubt of the ultimate outcome of the war. But it is impossible, of course, to say where the Kaiser will meet his Waterloo. The English may have an inkling—there are masses of cavalry in waiting at certain points, ready to turn a "strategic retreat" into a rout. The French are silent, but apparently waiting for the spring climax. It seems certain that the end will not come in Russia—not in Italy, not in the Balkans, but somewhere along the irregular line of trenches in France—from the North Sea to the foothills of the Jura Mountains.

To Roulers—57 miles from Waterloo—may fall the destiny of being, to the Kaiser, what Waterloo was to Napoleon—the end of a dream of world domination.



Complete Map of the Western Front Sent Free. See Coupon

Roulers the Objective

Roulers is the "solar plexus" of German control over the seacoast of Belgium. This is the logical goal of the British troops at Ypres. The distance between Ypres and Roulers is just 12 miles. By next spring it seems certain that artillery and infantry pressure will beat down German resistance in this sector.

With the fall of Roulers will come a vast Teutonic retreat, the surrender of the submarine bases at Ostend and Zeebrugge, the beginning of the collapse of German power in Belgium.

Critical Days at Hand

As the battle line struggles forward from day to day it is interesting to know why the Allies maneuver for positions south of Dixmude, why they fight so bitterly around Lens and prepare so craftily to drive east on Lille, and north on Rheims. It is to sweep the Germans out of Belgium! Once out of Belgium, Germany's cause is as lost as a penny at the ocean's bottom. And no one knows this better than the Kaiser.

The critical days are close at hand. Every American, to understand what is going on from day to day, must watch closely every move of the Allied troops. Much hinges on what is going on from day to day. The scale of activity is measured, not in miles, but in fractions of a mile. Every place on the battle line means something in the history that is being made. No place is too little for vast achievements to occur.

The Value of Maps

In order to follow the battle lines intelligently it is necessary to have a complete set of world maps. Nothing is so discouraging as to read of towns we know nothing about—have no idea of their position in relation to other towns or the battles being fought. In every home there should be a map of every nation at war if we are to understand exactly what our gains mean and when peace may reasonably be expected. The world's history is told by maps. The world's progress is told by maps. You must have maps to visualize the dream of the Kaiser, the object of the Allies, the progress of the Great War.

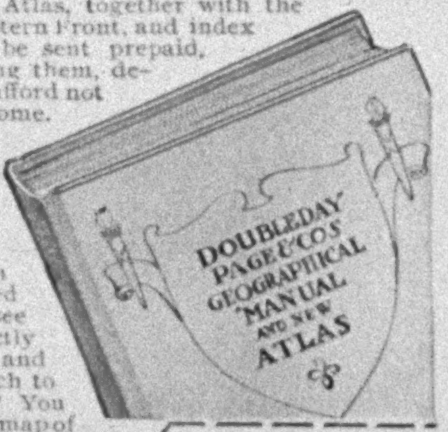
To meet the present emergency for a complete set of world maps, Doubleday, Page & Co. are now offering a new War Atlas, containing 240 pages of maps—political, economic, geographic, vegetation, population, language, racial, physical, historical. This remarkable Atlas shows the history of the world by maps, and enables one to understand the racial prejudices that caused the present war. It answers every question you can ask about the world and its making. No home—especially where there are children—should be without this Atlas. To those who purchase the Atlas now, a complete set of After-the-War Maps will also be sent, without charge.

$1 Map of Western Front Free

As an added inducement for prompt action, Doubleday, Page & Co. will send a new map of the Western Front, showing over 7,000 places, completely indexed. In addition to 7,000 towns, cities, and hamlets, this map gives all woods, fortresses, fortified towns, naval arsenals, forts, redoubts, batteries, aircraft depots, wireless stations, and railways. The forests and woods are indicated in green. The scale of map is *10 miles to the inch.* It extends west to Ashford, England; north to Antwerp, Belgium; east to Frankfort, Germany, and south to Orleans, France. It shows for comparison the *battle line of 1914,* when the Germans were *almost at the gates of Paris. The ground gained by the Allies,* therefore, may be plainly seen. This remarkable map measures 28 x 36 inches, but folds into a convenient cover 5½ x 7½ inches, just right to carry conveniently in the pocket for frequent consultation. Over twenty-five thousand of these maps have been sold at $1.00 each.

Mail the Coupon Now—No Money in Advance

While the first edition lasts, you may secure the NEW Doubleday-Page War Atlas at an amazingly low price and on free examination. Send no money now. Merely mail the coupon and the Atlas, together with the large Map of the Western Front, and index of 7,000 places, will be sent prepaid. Then, after examining them, decide whether you can afford not to have them in your home.



Great history is being made. The Armageddon of the nations is being fought and America's sons are there. Can you sit blindfolded in such times—blindfolded when it is so easy to see and understand exactly where every place is and why it means so much to the warring nations? You must have a complete map of the Western Front—maps of all fronts—of all the world.

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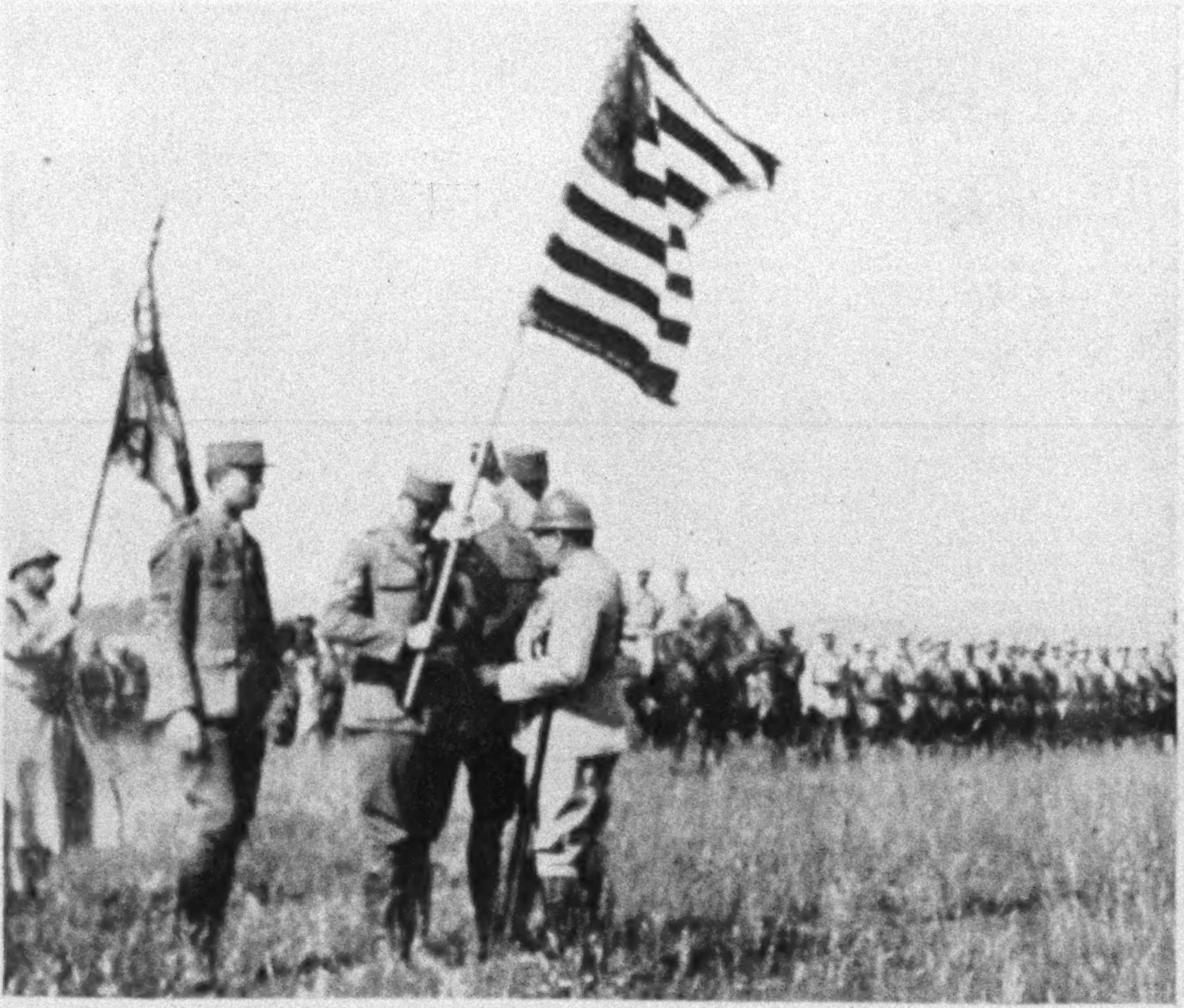

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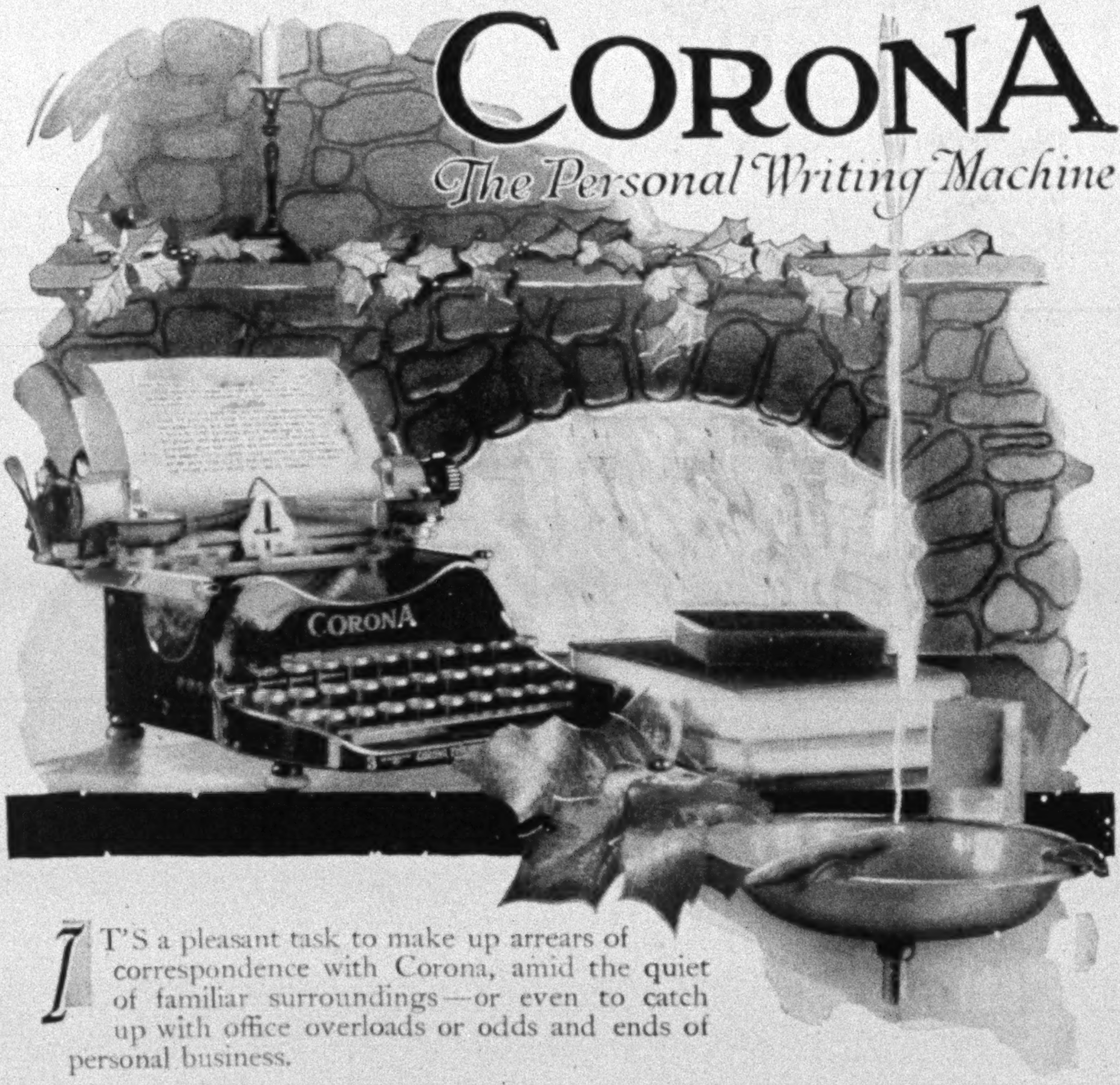

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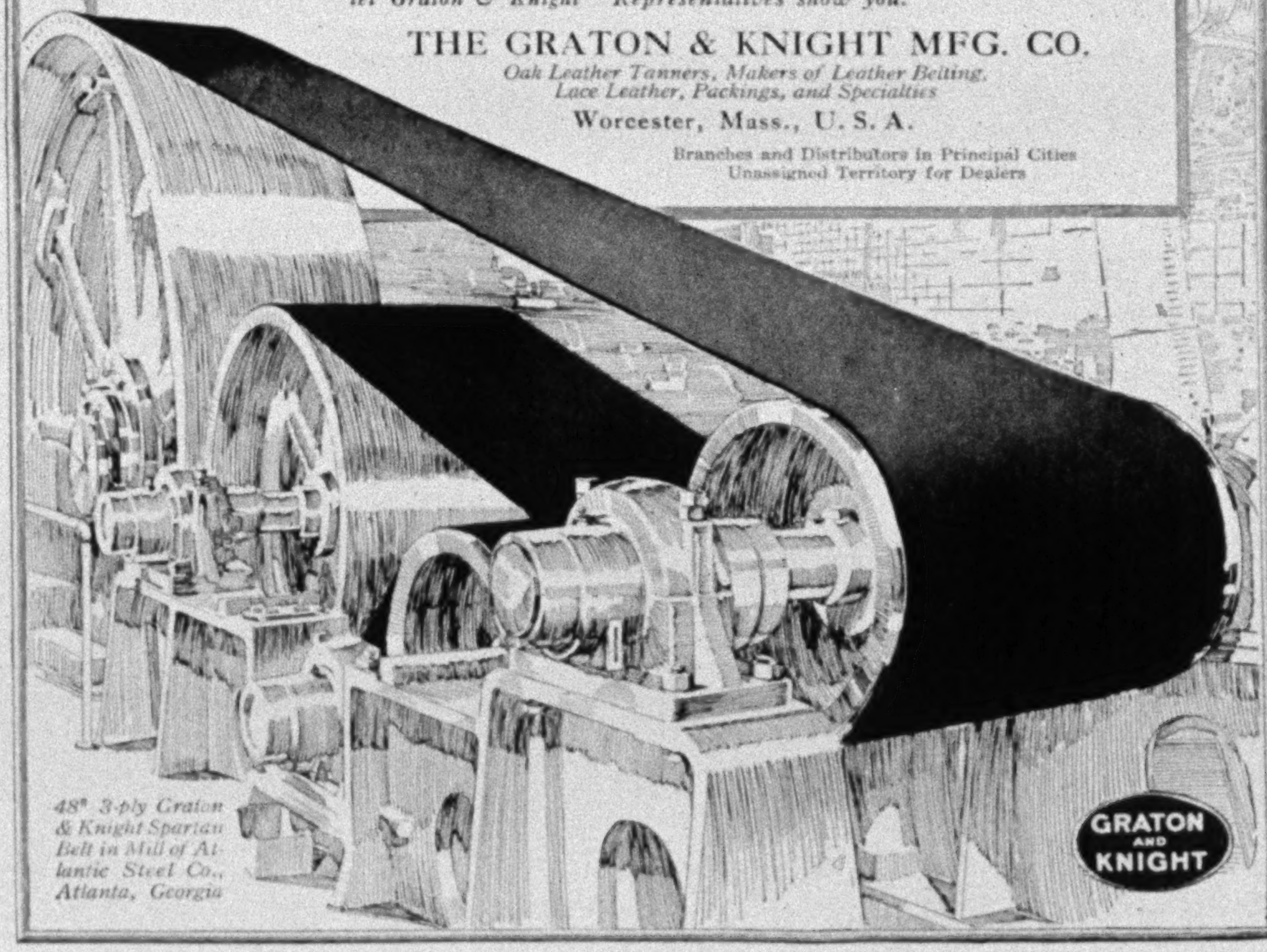

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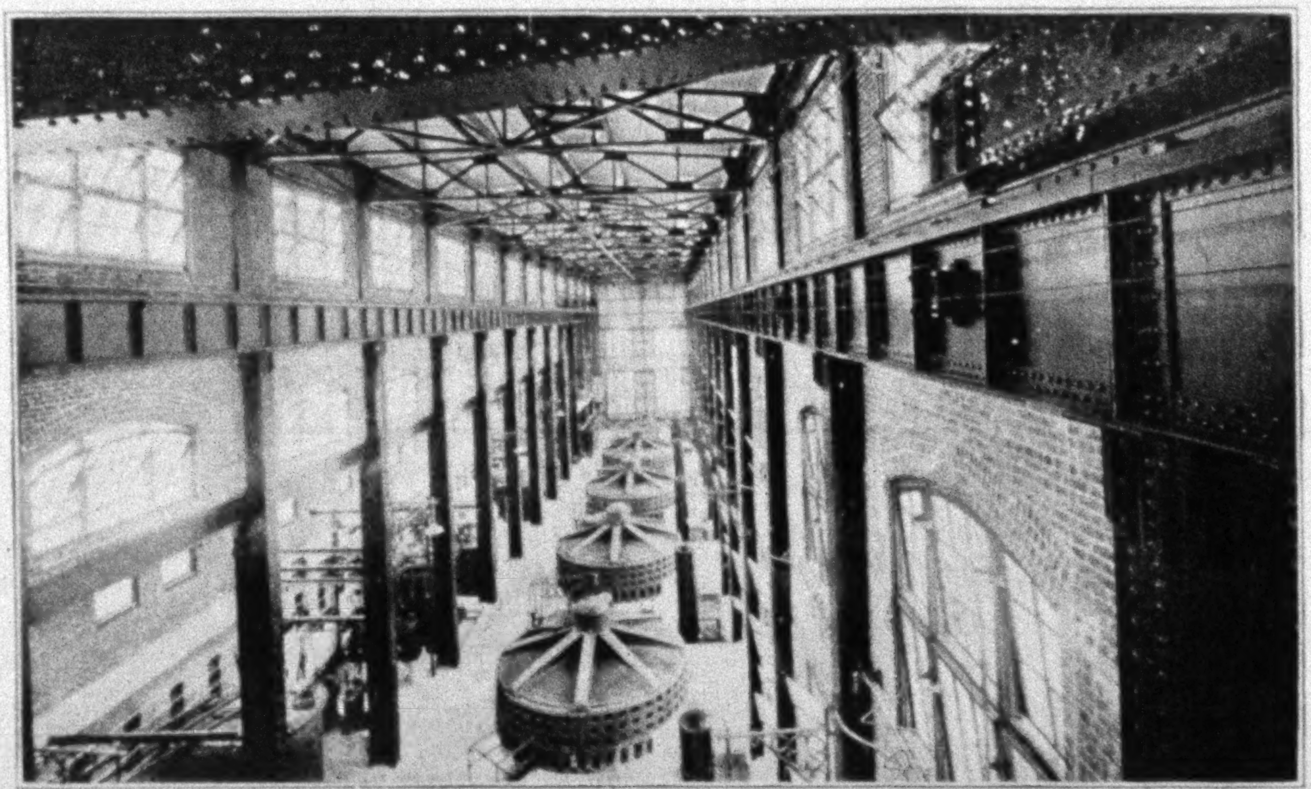

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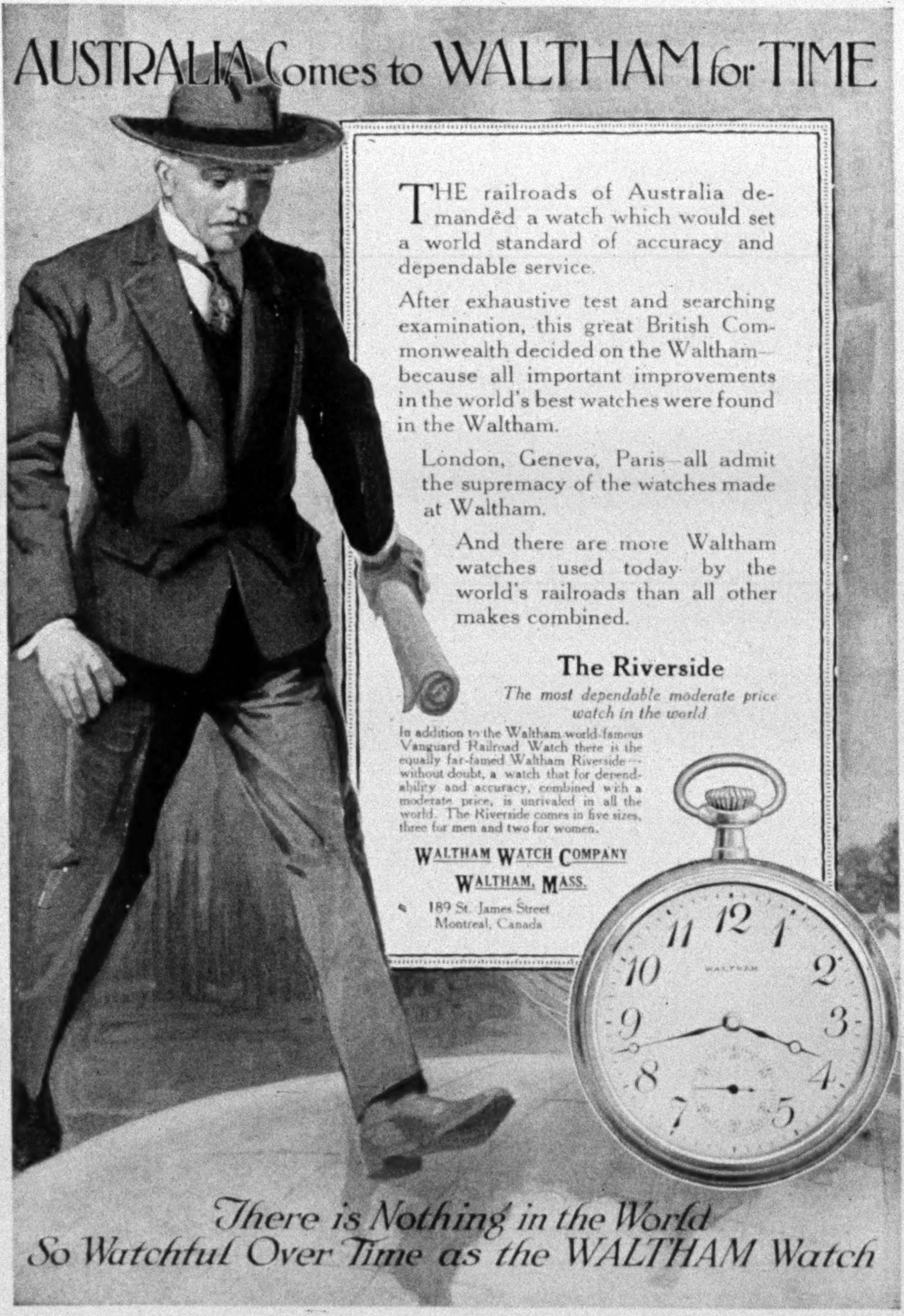

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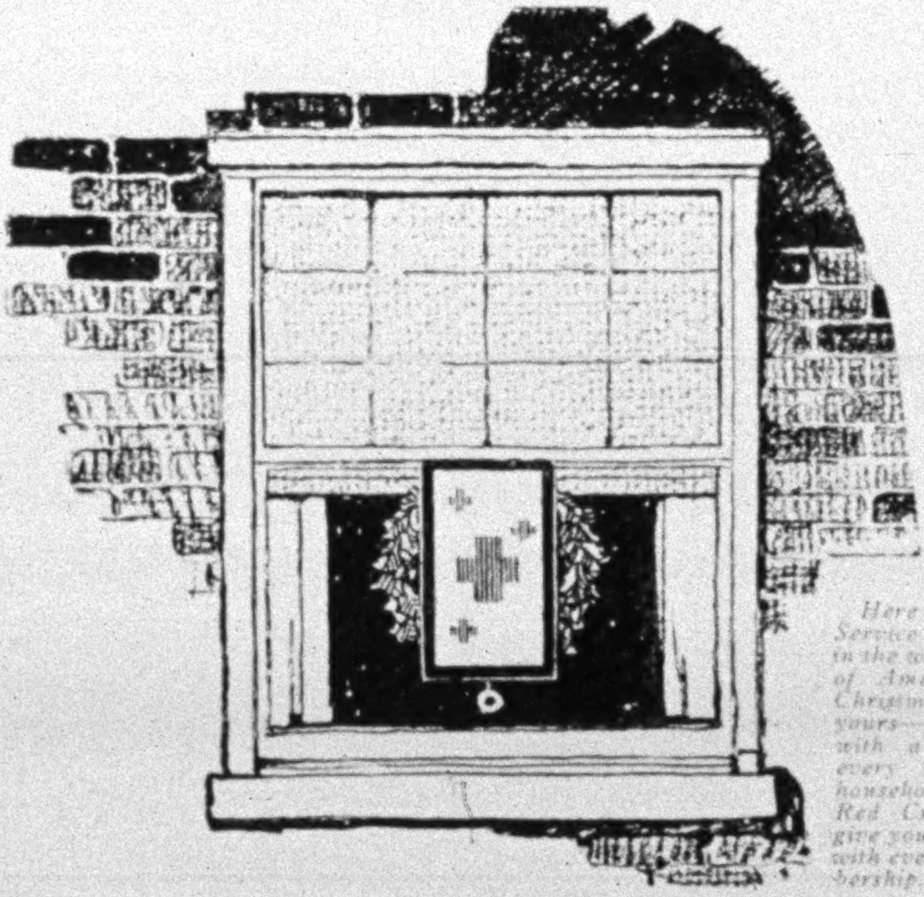

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The National Geographic Magazine donated this space to the American Red Cross in the belief that its readers will heartily respond

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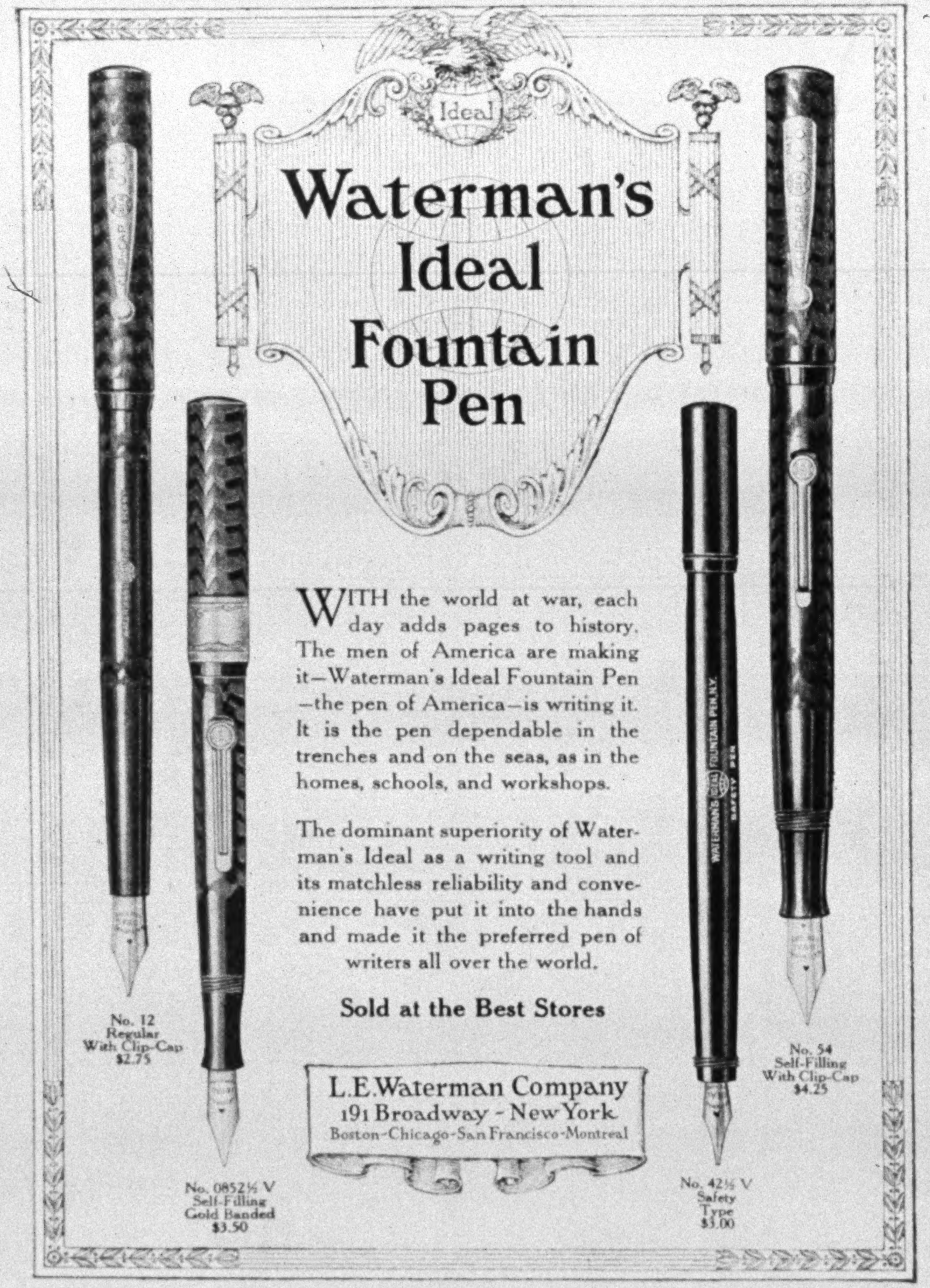
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